

Extraflame®

Riscaldamento a Pellet



THERMO PRODUCT USER MANUAL

COMFORT IDRO

We thank you for having chosen our company; our product is a great heating solution developed from the most advanced technology with top quality machining and modern design, aimed at making you enjoy the fantastic sensation that the heat of a flame gives, in complete safety.

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WARNINGS

This instructions manual is an integral part of the product: make sure that it always accompanies the appliance, even if transferred to another owner or user, or if transferred to another place. If it is damaged or lost, request another copy from the area technician. This product is intended for the use for which it has been expressly designed. The manufacturer is exempt from any liability, contractual and extracontractual, for injury/damage caused to persons/animals and objects, due to installation, adjustment and maintenance errors and improper use.

Installation must be performed by qualified staff, which assumes complete responsibility for the definitive installation and consequent good functioning of the product installed. One must also bear in mind all laws and national, regional, provincial and town council Standards present in the country in which the appliance has been installed, as well as the instructions contained in this manual.

The Manufacturer cannot be held responsible for the failure to comply with such precautions.

After removing the packaging, ensure that the content is intact and complete. Otherwise, contact the dealer where the appliance was purchased.

All electric components that make up the product must be replaced with original spare parts exclusively by an authorised after-sales centre, thus guaranteeing correct functioning.

SAFETY

- ♦ The generator must not be used by persons (including children) with reduced physical, sensory and mental capacities or who are unskilled persons, unless they are supervised and trained regarding use of the appliance by a person responsible for their safety.
- ♦ Children must be checked to ensure that they do not play with the appliance.
- ♦ Do not touch the generator when you are barefoot or when parts of the body are wet or damp.
- ♦ The safety and adjustment devices must not be modified without the authorisation or indications of the manufacturer.
- ♦ Do not pull, disconnect, twist electric cables leaving the stove, even if disconnected from the electric power supply mains.
- ♦ It is advised to position the power supply cable so that it does not come into contact with hot parts of the appliance.
- ♦ The power supply plug must be accessible after installation.
- ♦ Do not close or reduce the dimensions of the airing vents in the place of installation. The airing vents are essential for correct combustion.
- ♦ Do not leave the packaging elements within reach of children or unassisted disabled persons.
- ♦ The hearth door must always be closed during normal functioning of the product.
- ♦ When the appliance is functioning and hot to the touch, especially all external surfaces, attention must be paid
- ♦ Check for the presence of any obstructions before switching the appliance on following a prolonged period of inactivity.
- ♦ The generator has been designed to function in any climatic condition (even critical). In particularly adverse conditions (strong wind, freezing) safety systems may intervene that switch the generator off. If this occurs, contact the technical after-sales service and always disable the safety systems.
- ♦ In the event the flue catches fire, use suitable systems for suffocating the flames or request help from the fire brigade.
- ♦ This appliance must not be used to burn waste
- ♦ Do not use any flammable liquids for ignition
- ♦ During the filling phase do not put the bag of pellets to into contact with the product
- ♦ The majolicas are top quality artisan products and as such can have micro-dots, crackles and chromatic imperfections. These features highlight their valuable nature. Due to their different dilation coefficient, they produce crackling, which demonstrate their effective authenticity. To clean the majolicas, it is recommended to use a soft, dry cloth. If a detergent or liquid is used, the latter could penetrate inside the crackles, highlighting them.

ROUTINE MAINTENANCE

Based on Decree 22 January 2008 n°37 art.2, routine maintenance means interventions aimed at reducing degradation due to normal use, as well as dealing with accidental events entailing the need of first interventions, which however do not modify the structure of the system upon which one is intervening or its intended use according to the requirements laid down by the technical standards in force and by the manufacturer's use and maintenance manual.

DEVICES

(in the relevant models)

Door micro switch: With the door open, the operation of the burn pot cleaning system is blocked

Electronic pressure switch: in the event of inadequate pressure, it sends the machine in alarm conditions

F 2.5 A 250 V fuse (stoves): protects the machine from violent current surges

85°C calibrated mechanical bulb with manual rearm: intervenes by blocking fuel feed if the pellet tank t° reaches the limit of 85°C. **Rearm must be performed by qualified staff and/or the manufacturer's technical after-sales assistance.**

Pellet tank temperature control probe: if the tank over-heats, the machine automatically modulates to return to normal temperature values

Mechanical air pressure switch: blocks the pellet in the event of insufficient depression

REFERENCE STANDARDS

The installation must be in compliance with:

- ♦ **UNI 10683 (2012) heat generators fed with wood and other solid fuels: installation.**

The chimneys must be in compliance with:

- ♦ UNI EN 13063-1 and UNI EN 13063-2, UNI EN 1457, UNI EN 1806 in the event of non-metallic chimneys:
- ♦ EN 13384-1 (13384) chimneys. Thermal and fluid dynamic calculation methods.
- ♦ UNI EN 1443 (2005) chimneys: general requirements.
- ♦ UNI EN 1457 (2012) chimneys: clay/ceramic flue liners.
- ♦ UNI/TS 11278 (2008) Metal - chimneys/flue liners/flue ducts.
- ♦ UNI 7129 point 4.3.3 Fire Brigade provisions, local rules and regulations.

NATIONAL, REGIONAL, PROVINCIAL AND TOWN COUNCIL REGULATIONS

One must also bear in mind all laws and national, regional, provincial and town council Standards present in the country in which the appliance has been installed.

TERMS AND DEFINITIONS

Aeration: Air renewal is required both for the disposal of the combustion products, and to prevent mixtures with a hazardous content of non-combusted gases.

Closed hearth appliance: Appliance designed for operation with closed combustion chamber.

Forced draught appliance: Appliance with ventilation in the fumes circuit and combustion with fumes flow at a positive pressure with respect to the environment.

Chimney: Structure consisting in one or several walls containing one or several outflow airways. The purpose of this predominantly vertical element is to expel the combustion products at a convenient height from the ground.

Smoke duct: Component or components that connect the outlet of the heat generator to the chimney.

Chimney cap: Device that placed on the chimney outlet allows the dispersion of the combustion products even in presence of adverse weather conditions.

Condensation: Liquid products which form when the fumes temperature is lower or equal to the water dew point.

Ducting pipe: Pipe made up of one or several predominantly vertical elements, specifically suitable for collecting and expelling the fumes, as well as to withstand the relative components and any condensate over time, suitable to be installed in a chimney, existing or new technical compartment, even in new buildings.

Sealed installation: Installation of an appliance with sealed operation, so that all the air required for combustion is taken from outside.

Maintenance: Set of procedures required to ensure and maintain safety and functionality over time and maintain the efficiency of the system within the prescribed parameters.

Chimney system: Chimney installed using a combination of compatible components, manufactured or specified by a sole manufacturer whose product liability covers the entire chimney.

Fumes exhaust system: Flue gas exhaust system, independent from the appliance made up of a smoke duct, chimney or individual flue and chimney cap.

Radiation area: Area immediately in front of the hearth in which the radiant heat caused by combustion is diffused.

Reflux area: Area beyond the extrados of the roof in which overpressure or depressions occur, which may affect the proper discharge of the combustion products.

FUNCTIONAL OPERATIONS DIAGRAM

State of the art installation and proper system operation include a series of activities:

1. Preliminary activities:

- ♦ Verification of the suitability of the power of the heat generator based on the characteristics of the system
- ♦ verification of the suitability of the installation site,
- ♦ verification of the suitability of the fumes exhaust system,
- ♦ verification of the suitability of the outside air inlets;

2. Installation:

- ♦ implementation of ventilation and connection to the outer air inlets,
- ♦ implementation and connection to the fumes exhaust system,
- ♦ assembly and installation,
- ♦ electric and hydraulic connections,
- ♦ installation of insulation,
- ♦ ignition and operation test,
- ♦ installation of finishings and coverings;

3. Issue of complementary documentation;

4. Inspection and maintenance.

Other actions may be required in relation to specific requests of the competent authority.

PRELIMINARY ACTIVITIES

GENERAL

Verification of compatibility of the system, of any restrictions required by local administrative regulations, special or conventional requirements resulting from condominium regulations, constraints, laws or administration deeds must precede any other assembly or installation operation.

One must especially verify the suitability:

- ♦ of the installation premises, of the appliances already installed in the installation premises and in the adjacent and adjoining premises, also powered by different fuels, with particular reference to non-compliant installations.
- ♦ of the fumes exhaust system
- ♦ of the outside air inlets

SUITABILITY OF THE FUMES EXHAUST SYSTEM

Installation must be preceded by a compatibility test between the appliance and the fumes exhaust system, by verifying:

- ♦ the existence of documentation relating to the system;
- ♦ existence and content of the chimney plaque;
- ♦ suitability of the internal section of the chimney;
- ♦ absence of obstructions all along the chimney;
- ♦ predominantly vertical height and development of the chimney;
- ♦ existence and suitability of the chimney cap;
- ♦ distance of the outside wall of the chimney and of the smoke duct from
- ♦ combustible materials;
- ♦ chimney type and material;
- ♦ absence of other chimney connections.

INSTALLATION

Installation in premises with fire hazards is forbidden. Installation in residential premises (except for sealed operation appliances) is also forbidden:

- ♦ in which there are liquid fuel-operated appliances with continuous or intermittent operation, which draw the combustion air in the room in which they are installed, or
- ♦ in which there are type B gas appliances intended for room heating, with or without production of domestic hot water and in adjacent and adjoining premises, or
- ♦ in which, in any case, the depression measured during installation between the internal and external environment is greater than 4 Pa

Installations in bathrooms, bedrooms and studio flats

Installation in bathrooms, bedrooms and studio flats is only allowed for sealed or closed hearth appliances with ducted combustion air taken from the outside.

Installation premises requirements

The support surfaces and/or points must have a suitable load-bearing capacity to support the weight of the appliance, of the accessories and coatings.

The adjacent, side and rear walls and the supporting surface must be made of non-combustible material. Installation near combustible materials or those sensitive to heat is permitted as long as there is a suitable safety distance, which for pellet stoves is equal to:

REFERENCES	INFLAMMABLE OBJECTS	NON-INFLAMMABLE OBJECTS
A	200 mm	100 mm
B	1500 mm	750 mm
C	200 mm	100 mm

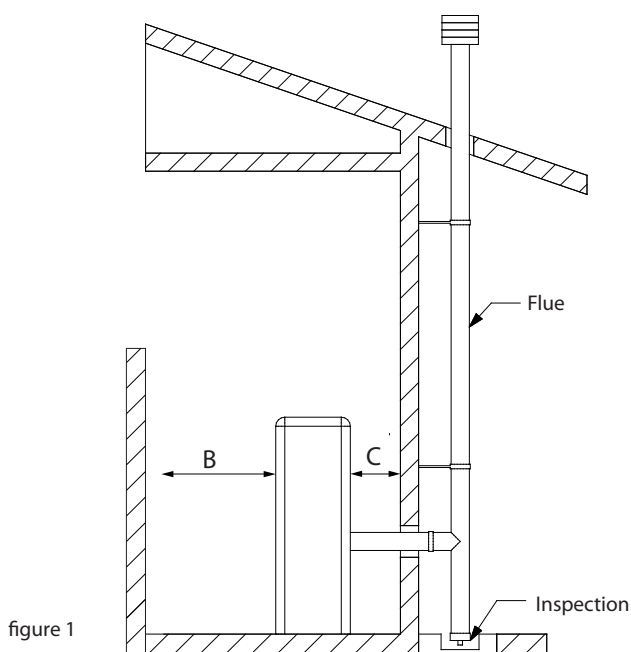


figure 1

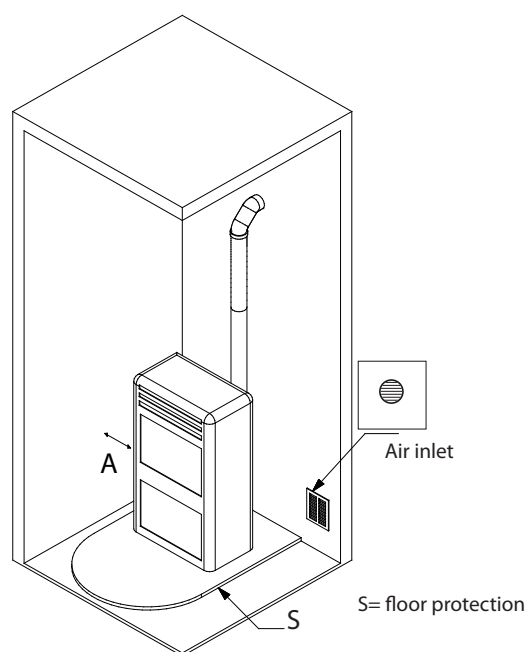


figure 2

In any case the temperature of the adjacent combustible materials must not reach a temperature equal to or greater than the room temperature increased by 65°C.

The minimum volume of the premises in which to install the appliance must be greater than 15 m³.

VENTILATION AND AERATION OF THE INSTALLATION PREMISES

Ventilation is deemed sufficient when the room is equipped with air inlets according to the table:

Air inlet

See figure 2

Appliance categories	Reference standard	Percentage of the net opening section with respect to the appliance fumes outlet section	Minimum net opening value of the ventilation duct
Pellet stoves	UNI EN 14785	-	80 cm ²
Boilers	UNI EN 303-5	50%	100 cm ²

In any case ventilation is deemed sufficient when the pressure difference between the external and internal environment is equal to or less than 4 Pa.

In the presence of type B gas appliances with intermittent operation not intended for heating, they must have their own aeration and/or ventilation opening. The air inlets must meet the following requirements:

- ♦ they must be protected with grids, metal mesh, etc., but without reducing the net useful section;
- ♦ they must be made so as to make the maintenance operations possible;
- ♦ positioned so that they cannot be obstructed;

The flow of clean, uncontaminated air can also be obtained from a room adjacent to that of installation (indirect aeration and ventilation), as long as the flow takes place freely through permanent openings communicating with the outside.

The adjacent room cannot be used as a garage, warehouse of combustible material or for any other activity with a fire hazard, bathroom, bedroom or common room of the building.

FUMES EXHAUST SYSTEM

GENERAL REQUIREMENTS

The heat generator works in a vacuum and has an output fan for fume extraction. Each appliance must be connected to a suitable fumes exhaust system and ensure adequate dispersion of the combustion products into the atmosphere. The combustion products must be discharged above the roof. Direct discharge from the wall or towards closed spaces is forbidden, even with clear skies.

In particular, it is forbidden to use flexible and extendible metal pipes.

The chimney should only receive the exhaust of the smoke duct connected to the appliance; collective flues or conveying exhausts from hoods above cooking appliances of any kind, or exhausts from other generators into the chimney itself or smoke duct are not allowed.

The smoke duct and the chimney must be connected with a continuity solution, in order to prevent the chimney from resting on the appliance.

It is forbidden to have other air supply channels and pipes for plant engineering transit inside the fumes exhaust systems, especially if over-sized.

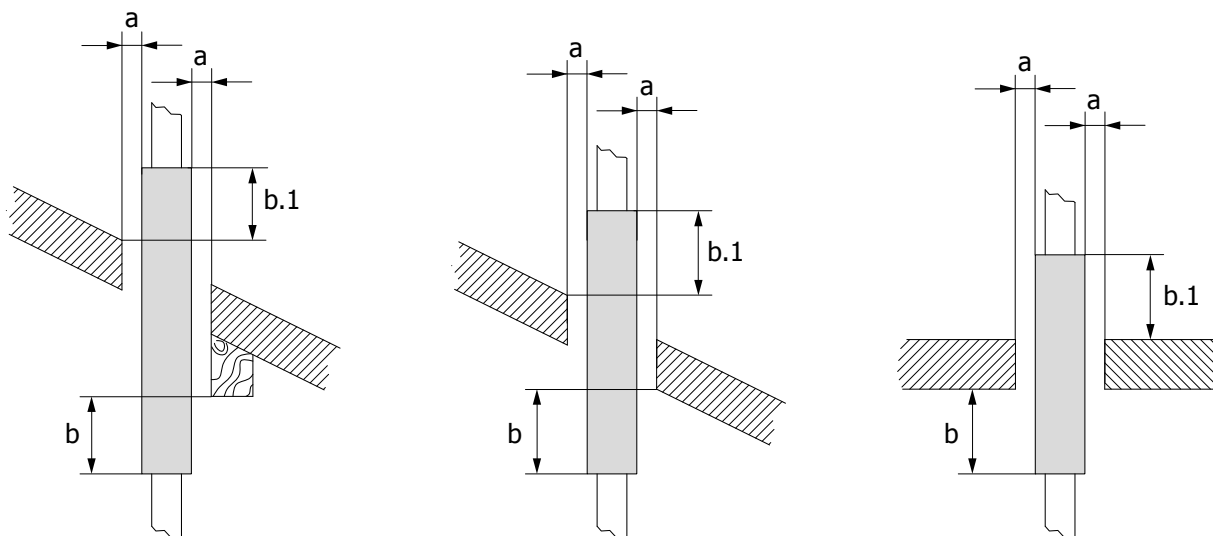
The components of the fumes exhaust system must be chosen in relation to the type of appliance to be installed in compliance with:

- ♦ in the event of metal chimneys, UNI/TS 11278, with particular attention to what is stated in the specification;
- ♦ in the event of non-metallic chimneys: UNI EN 13063-1 and UNI EN 13063-2, UNI EN 1457, UNI EN 1806; considering especially:
- ♦ temperature class;
- ♦ pressure class (fumes seal) at least equal to the seal required for the appliance;
- ♦ moisture resistance (resistance to condensation);
- ♦ class or level of corrosion and specification of the materials constituting the inner wall in contact with the fumes.
- ♦ soot fire resistance class;
- ♦ minimum distance from combustible materials
- ♦ Where due to high efficiency a pellet stove has fumes at a temperature of less than 160°C + ambient (see technical data) it must be resistant to moisture.

The installer of the fumes exhaust system, once the installation is complete and the relevant checks and inspections have been made, must fix the chimney plaque supplied by the manufacturer with the product in a visible manner, near the fireplace, and which must be completed with the following information:

- ♦ nominal diameter;
- ♦ distance from combustible materials, indicated in millimetres, followed by the arrow and flame symbol;
- ♦ installer data and date of installation.

Every time one must cross combustible materials, the following indications must be complied with:



SYMBOL	DESCRIPTION	QUOTA[MM]
b	Minimum distance of combustible materials from the intrados of the framework/floor/wall	500
b.1	Minimum distance of combustible materials from the extrados of the framework/floor	500
a	Minimum distance from combustible materials defined by the manufacturer	G(xxx)

The single wall pipes are indicated in white.

The insulated double wall chimney systems are indicated in grey.

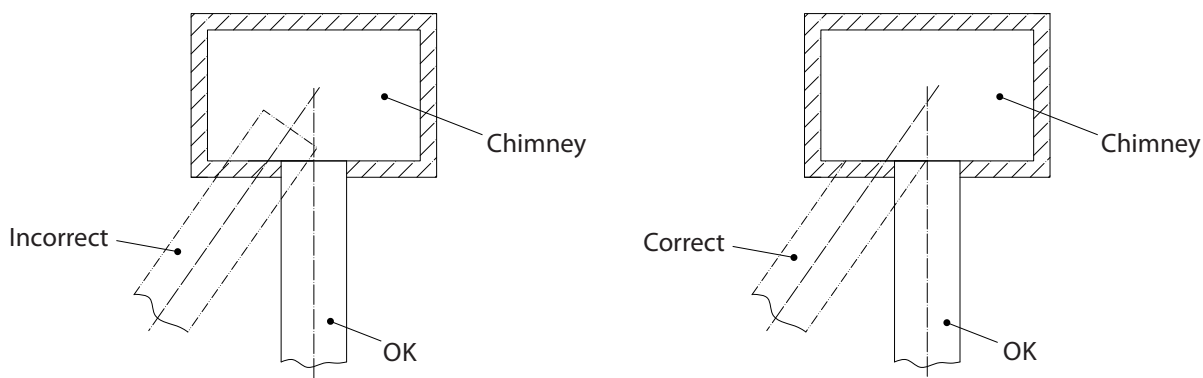
One can disregard the quota only in the event of using an appropriate heat protection screen (for example: wall plate) to protect the intrados of the framework/floor

SMOKE DUCT

General requirements

The smoke ducts must be installed in compliance with the following general requirements:

- ♦ be equipped with at least one sealed outlet for eventual fumes sampling;
- ♦ they must be insulated if they cross through rooms that are not to be heated or outside the building;
- ♦ they must not cross rooms in which the installation of combustion appliances is forbidden, nor in other premises compartmentalised against fire or with a fire hazard, nor in rooms and/or areas that cannot be inspected;
- ♦ they must be installed so as to allow normal thermal expansion;
- ♦ they must be fitted to the opening of the chimney without protruding inwards;
- ♦ the use of flexible metal pipes to connect the appliance to the chimney is not allowed;



- ♦ counter-slope sections are not allowed;
- ♦ the smoke ducts must have, along their entire length, a diameter that is no less than that of the attachment of the appliance exhaust pipe;
- ♦ any section changes are allowed only on the inlet to the chimney;
- ♦ they must be installed so as to limit the formation of condensation and prevent their release from the joints;
- ♦ they must be positioned at a distance no less than that indicated in the product specifications from combustible materials;
- ♦ the smoke channel/duct must allow to collect the soot and to be cleaned using a swab and inspected after being disassembled, or through inspection openings when not accessible from inside the appliance.

ADDITIONAL REQUIREMENTS FOR APPLIANCES FITTED WITH AN ELECTRIC FAN FOR FUMES EXPULSION

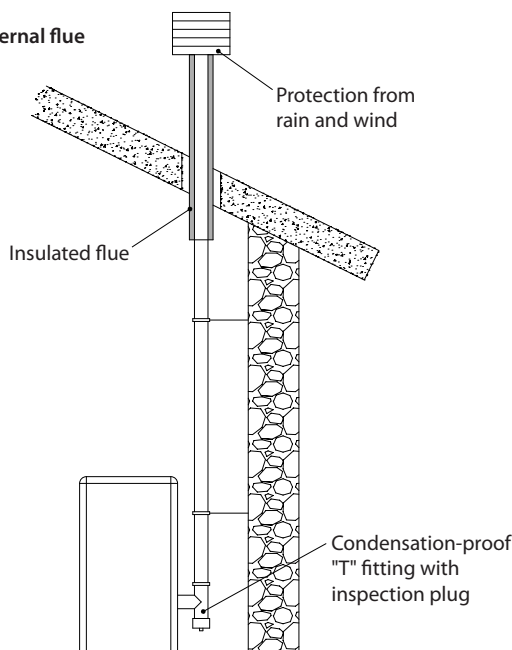
For the heat generator appliances equipped with electric fan for expelling fumes, the instructions below must be followed:

- ♦ The horizontal sections must have a minimum upward slope of 3%
- ♦ The length of the horizontal section must be minimal and, in any case, no longer than 3 metres
- ♦ The number of direction changes including the one due to the use of the "T" element must not be more than 4.

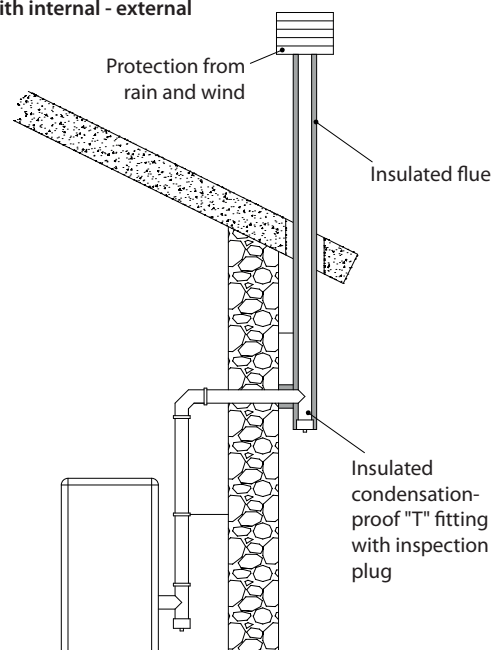


EXAMPLES OF CORRECT CONNECTION TO THE CHIMNEY

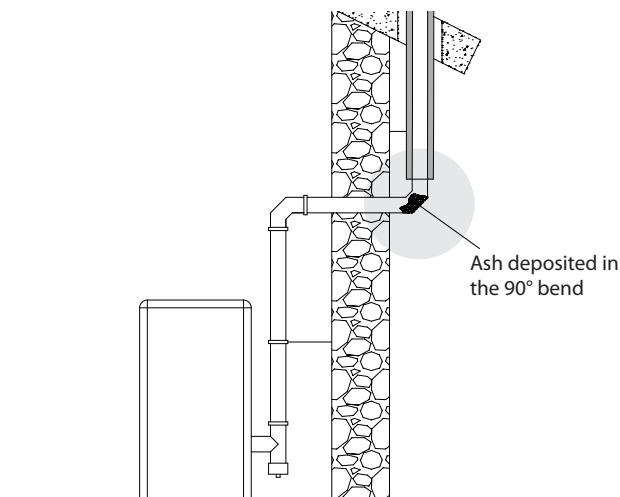
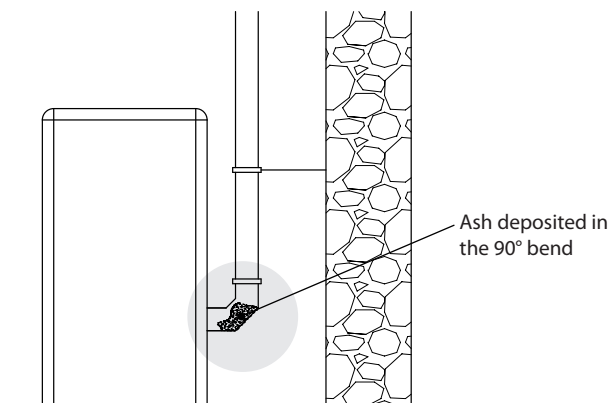
Installation with internal flue



Installation with internal - external flue

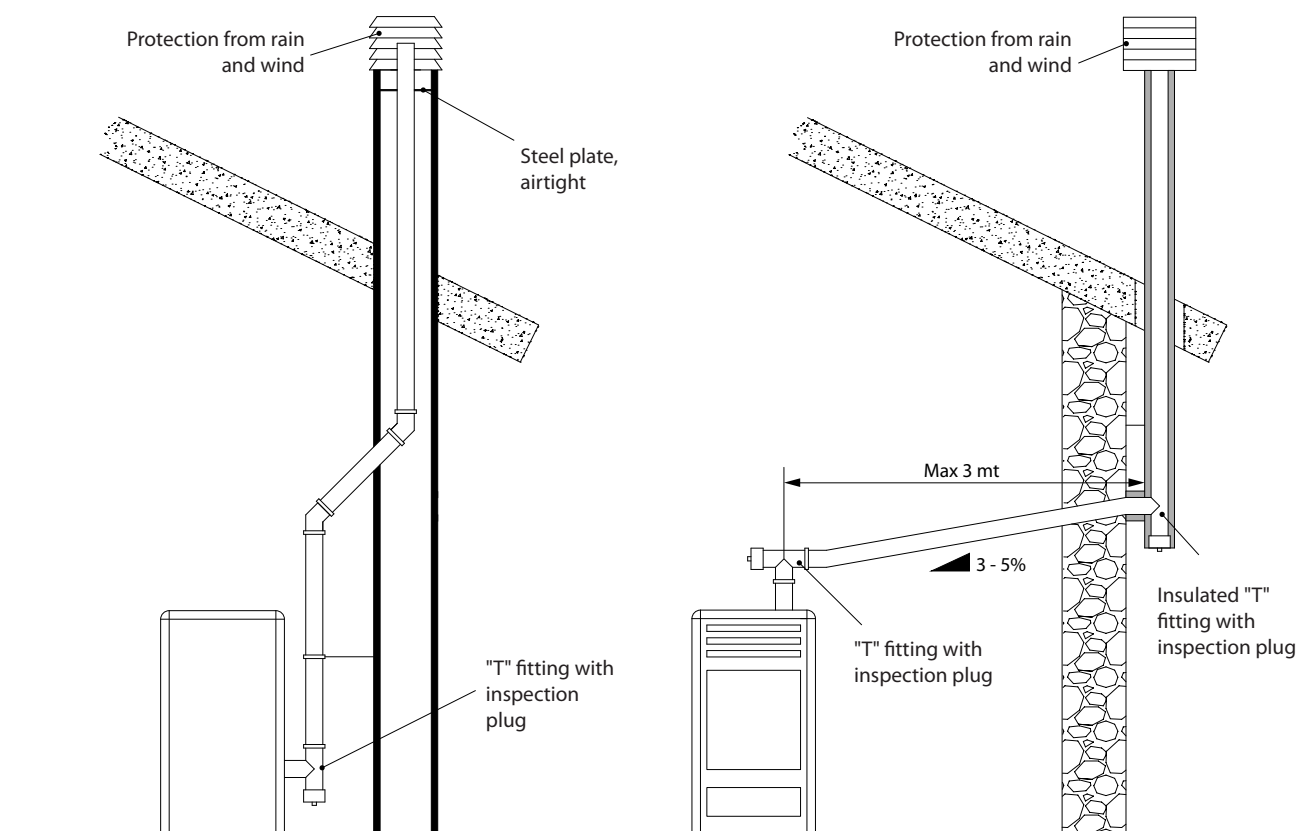


IT IS NOT RECOMMENDED TO INSTALL A 90° BEND AS THE FIRST INITIAL PART, SINCE THE ASH WOULD BLOCK THE PASSAGE OF THE FUMES IN A SHORT TIME, CAUSING PROBLEMS TO THE GENERATOR DRAUGHT.:





EXAMPLES OF CORRECT CONNECTION TO THE CHIMNEY



It is mandatory to use airtight pipes.

CHIMNEY

In addition to the general requirements, the chimneys for releasing combustion products into the atmosphere must:

- ♦ operate under negative pressure (operation under positive pressure is not allowed);
- ♦ have a preferably circular internal section; square or rectangular sections must have rounded corners with a radius of no less than 20 mm (hydraulically equivalent sections may be used, as long as the ratio between the longer side and the shorter side of the rectangle, which circumscribes the section, is in any case no greater than 1.5);
- ♦ be designed for fumes be designed for fumes expulsion;
- ♦ be predominantly vertical and have no narrowing along their entire length;
- ♦ have no more than two direction changes with a slope angle no greater than 45°;
- ♦ be fitted with, in the event of operating in damp conditions, a device for reflux drainage (condensation, rainwater);

Ducted system

A ducted system can be installed with one or more ducts, operating only with negative pressure with respect to the environment.

The flexible hose compliant with UNI EN 1856-2, with T400-G characteristics, meets the requirements.

CHIMNEY CAPS

The chimney caps must meet the following requirements:

- ♦ they must have a useful outlet section no less than double of that of the chimney/ducted system on which it is installed;
- ♦ they must be adapted in order to prevent the penetration of rain and snow in the chimney/ducted system;
- ♦ they must be built so that, in the event of winds coming from all directions and from any angle, the expulsion of combustion products is in any case ensured;
- ♦ they must be free from mechanical intake aids.

COMBUSTION PRODUCTS OUTLET QUOTA

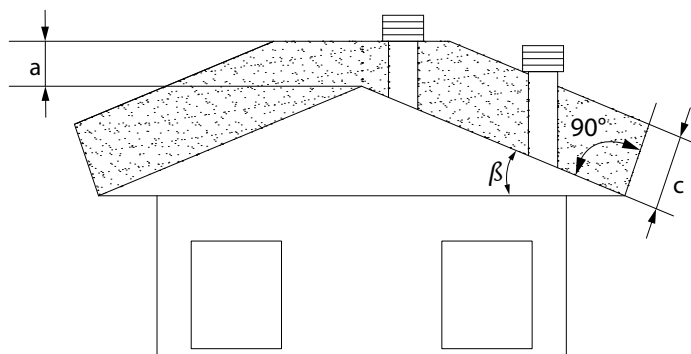
The outlet quota is determined by measuring the minimum height between the roof covering and the lower point of the fumes expulsion section into the atmosphere; this quota must be outside the reflux area and at an adequate distance from obstacles which hinder or make the expulsion of the combustion products difficult or from openings or accessible areas.

Reflux area

The outlet quota must be outside the reflux area calculated according to the indications below.

Near the ridge one considers the lowest between the two.

Buffer area for outlet quota



Clear area for outlet quota above the roof slope ($\beta > 10^\circ$)

REFERENCE	DESCRIPTION	CLEAR AREA (MM)
c	Distance measured at 90° from the roof surface	1300
a	Height above the ridge of the roof	500

The outlet of a chimney/ducted system must not be near obstacles that may create turbulence areas and/or prevent proper expulsion of combustion products and maintenance operations to be carried out on the roof.

Verify the presence of other chimney caps or skylights and dormers.

FUMES EXHAUST SYSTEM PRODUCT REQUIREMENTS

Temperature class

In the event of a pellet appliance, temperature classes below T200 are not allowed.

Soot fire resistance class

The fumes exhaust system interlocked with appliances supplied by solid fuels require soot fire resistance, and the specification must be indicated by the letter G followed by the distance from combustible materials in millimeters (XX) (in compliance with UNI EN 1443) .

In the event of pellet appliances, the fumes exhaust systems must be airtight; if double designation elements are used (G and O, with or without seal elastomer) for connecting the appliance to the chimney, one must comply with the minimum distance XX in millimeters, indicated for designation G; in the event of fire due to soot, one must ensure the restoration of the initial conditions (by replacing the gaskets and damaged items and cleaning those remaining in use).

Ignition tests

Operation of the appliance must be verified with an ignition test, i.e.:

- ♦ for mechanical feed appliances, one must complete the ignition test, verify proper operation for at least the next 15 minutes and adjust the switch-off;

For appliances installed in a hot water heating system (closed fireplaces, thermo-stoves), testing must also extend to the entire hydraulic circuit.

Coverings and finishings

The coverings and finishings must only be applied after having verified the proper operation of the appliance according to the indicated modalities

TECHNICAL INSTALLATION DOCUMENTATION

When installation is complete, the installer must provide the owner or person acting for him, according to the legislation in force, with the declaration of conformity, supplied with:

- 1) the use and maintenance manual of the appliance and of the system components (such as for example, the smoke ducts, chimney, etc.);
- 2) photocopy or photograph of the chimney plaque;
- 3) system booklet (where applicable).

The installer must ask to be issued with a receipt stating that the documentation has been provided, and must keep it with a copy of the technical documentation relating to the installation.

Installation performed by several parties

If the individual installation steps are carried out by different parties, each must document the work carried out for the customer and the for the operator working on the next step.

INSPECTION AND MAINTENANCE

Frequency of operations

Maintenance of the heating system and of the appliance must be carried out on a regular basis according to the table below:

TYPE OF APPLIANCE INSTALLED	<15kW	(15- 35) kW
Pellet operated appliance	1 year	1 year
Water operated appliances (closed fireplaces, thermo-stoves, thermo-kitchens)	1 year	1 year
Boilers	1 year	1 year
Fumes exhaust system	4 t of fuel used	4 t of fuel used

For further details refer to the "cleaning and maintenance" chapter.

Inspection and maintenance report

At the end of the inspection and/or maintenance operations, a report must be issued and released to the owner, or person acting for him, who must confirm its receipt in writing. The report must indicate the situations encountered, the action taken, any components replaced or installed and any comments, recommendations and requirements. The report must be kept with the relative documentation.

In the inspection and maintenance report one must mention:

- ♦ anomalies detected that cannot be removed, which pose a risk to the safety of the user or serious damage to building;
- ♦ components that have been tampered with.

If anomalies as per above were detected, the owner, or person acting for him, must be warned in writing, in the maintenance report, to refrain from using the system until the safety conditions have been fully restored.

The inspection and maintenance report must include the main information of the technician or company who performed the inspection and/or maintenance operations, with their contact details, date of intervention and the signature of the operator.

HYDRAULIC SYSTEM

Certain concepts referring to the Italian UNI 10412-2 (2009) Standard are described in this chapter.

As previously described, when installing, all national, regional, provincial and town council Standards in force provided by the country in which the appliance has been installed must be complied with.

TABLE OF DEVICES FOR CLOSED VESSEL SYSTEM, PRESENT AND NOT PRESENT IN THE PRODUCT	
Safety valve	☒
Pump control thermostat (managed by the water probe and board program)	☒
Acoustic alarm activation thermostat	-
Water temperature indicator (display)	☒
Pressure transducer with display	☒
Acoustic alarm	-
Automatic circuit breaker switch (managed by board program)	☒
Pressure transducer with minimum and maximum pressure switch alarm	☒
Water overheating automatic circuit breaker (blocking thermostat)	☒
Circulation system (pump)	☒
Expansion system	☒

During installation of the stove it is MANDATORY to adjust the system with a manometer in order to display the water pressure.

INSTALLATION AND SAFETY DEVICES

The installation, relative system connections, commissioning and inspection of correct functioning must be carried out perfectly, in total compliance with Standards in force, both national, regional and municipal, as well as these instructions.

For Italy, installation must be carried out by professionally authorised staff (Ministerial Decree dated 22.01.08 n°37).

The manufacturer declines all responsibility for damages to objects and/or persons caused by the system.

SAFETY DEVICES FOR CLOSED VESSEL SYSTEM

According to the UNI 10412-2 (2009) Standard in force in Italy, the closed systems must have: safety valve, pump control thermostat, acoustic alarm activation thermostat, temperature indicator, pressure indicator, acoustic alarm, regulation automatic circuit breaker switch, automatic circuit breaker block switch (block thermostat), circulation system, expansion system, safety dissipation system incorporated with the generator with thermal safety valve (self-activated), whenever the appliance does not have a temperature self-adjustment system.

DISTANCES OF SAFETY DEVICES ACCORDING TO THE STANDARD

The temperature safety sensors must be in place on the machine at a distance no greater than 30 cm from the flow connection.

Whenever the generators lack a device, those missing can be installed on the generator flow pipe, within a distance no greater than 1m from the machine.

COMPONENT	DISTANCE
Temperature safety sensors	On the machine or not exceeding 30 cm
Missing devices because not as per standard	Not exceeding one metre, on the flow pipe

The domestic heating appliances with automatic feeding must: be equipped with a fuel block thermostat or with a cooling circuit set up by the appliance manufacturer.

The cooling circuit must be activated by a thermal safety valve, in order to ensure that the limit temperature set forth by the Standard is not exceeded.

Connection between the power supply unit and the valve must be free from interceptions.

The pressure upstream from the cooling circuit must be at least 1.5 bar.

TYPE OF SYSTEM

There are two different types of system:

- ♦ Open vessel plant and closed vessel plant.

The product has been designed and realised to work with closed vessel systems.

CLOSED VESSEL PLANT

System in which the water it contains is not in direct or indirect communication with the atmosphere. Generally, the closed vessel system has one of the following expansion vessels:

- ♦ Pre-loaded closed expansion vessel with membrane impermeable to the passage of gases.
- ♦ Automatic closed expansion system with compressor and membrane impermeable to the passage of gases.
- ♦ Automatic closed expansion system with transfer pump and membrane impermeable to the passage of gases.
- ♦ Expansion system without diaphragm.

GENERALITY

The closed systems must have:

- ♦ Safety valve
- ♦ Pump control thermostat
- ♦ Acoustic alarm activation thermostat
- ♦ Temperature indicator
- ♦ Pressure indicator
- ♦ Acoustic alarm
- ♦ Adjustment automatic circuit breaker switch
- ♦ Automatic circuit breaker switch (block thermostat)
- ♦ Circulation system
- ♦ Expansion system
- ♦ Safety dissipation system incorporated with the generator with thermal safety valve (self-activated), whenever the appliance does not have a temperature self-adjustment system

SAFETY VALVES

The load capacity of the safety valve must allow the discharge of a quantity of vapour, not lower than: $Q / 0.58$ [kg/h] where: Q is the useful outlet power to the generator water expressed in kilowatt. The diameter of the minimum net transversal section of the valve inlet must not be lower than 15 mm. The valve load pressure, equal to the calibration pressure, increased by the overpressure, cannot exceed the maximum exercise pressure of the heat generator. The designer must check that the maximum pressure existing in every point of the system, does not exceed the maximum exercise pressure of its every component. The safety valve must be connected to the upper part of the heat generator or outlet pipes, very close to the generator. The length of the piping between the generator coupling and the safety valve must not exceed 1 m. The piping connecting the safety valve to the heat generator must not be interrupted and must not have, in any point, a cross-section lower than that of the safety

valve inlet or than the sum of the inlet cross-sections, in the event of several valves serving a single pipe. The discharge piping of the safety valve must be realised in order not to prevent the regular functioning of the valves and not to cause damages to persons; the discharge must flow immediately near the safety valve and be accessible and visible. The diameter of the discharge piping must not however be lower than that of the outlet connection of the safety valve. For diameter of outlet connection it is intended the minimum internal diameter on the valve outlet upstream of the eventual internal threading.

CLOSED EXPANSION VESSEL

Warnings: check that the preload of the expansion vessel is set to 1.5 bar.

The vessel maximum exercise pressure must not be lower than the calibration pressure of the safety valve, increased by overpressures, characteristic of the same valve, bearing in mind the eventual level difference between vessel and valve and the pressure generated by the functioning of the pump. The capacity of the expansion vessel/s is evaluated depending on the total system capacity as results from the project. The closed expansion vessels must comply with the provisions concerning the design, manufacturing, conformity assessment and use of pressure appliances. Intercepting objects or section decreases must be inserted/practiced on the connection piping, which can be constituted by system portions. The insertion of a three-way intercepting valve which allows connection between the vessel and the atmosphere for maintenance Operations, is allowed. Such device must be protected against accidental manoeuvres. The connection pipe must be realised in order not to present scales or deposits storage points. In case of more heat generators which feed the same plant or the same secondary circuit, each heat generator must be connected directly to the expansion vessel or plant expansion vessels unit, altogether dimensioned for the total volume of water contained in the same plant or the same independent circuit. Where it is necessary to separate the individual heat generator from the expansion vessel or expansion vessels unit, a three-way tap must be applied on the connection piping between the generator and the vessel, in order to ensure, in every position, the connection of the generator with the expansion vessel or with the atmosphere. The expansion vessels, the connecting pipes, the bleed pipes and drain pipes must be protected from freezing, where this phenomenon occurs. The solution used for this purpose is described in the design.

COMMISSIONING CHECKS

Before connecting the boiler:

- a) wash all system piping in order to remove any residues which might compromise the correct functioning of certain system components (pumps, valves, etc.).
- b) check to verify that the flue has adequate draft, is not narrowed and that other appliances do not discharge into the flue. This is to prevent unexpected power increases. Only after this control can the flue fitting be mounted between the boiler and the flue. A check of the connections with pre-existing flues is recommended.

AUTOMATIC THERMOSTATIC MIXER VALVE (MANDATORY)

It is required to create an adequate anti-condensation circuit that ensures a return temperature for the appliance of at least 55° C. The anti-condensation valve, for example, is applied in solid fuel boilers as it prevents the return of cold water in the heat exchanger.

Routes 1 and 3 are always open and, together with the pump installed on the return, they guarantee water circulation inside the biomass boiler exchanger.

A high return temperature allows efficiency improvement, reduces formation of smoke condensation and prolongs the life span of the generator.

Valves on the market have different calibrations. The manufacturer advises use of model 55°c with 1" hydraulic connections. Once the valve calibration temperature is reached, route 2 is opened and the boiler water goes to the system via the flow.



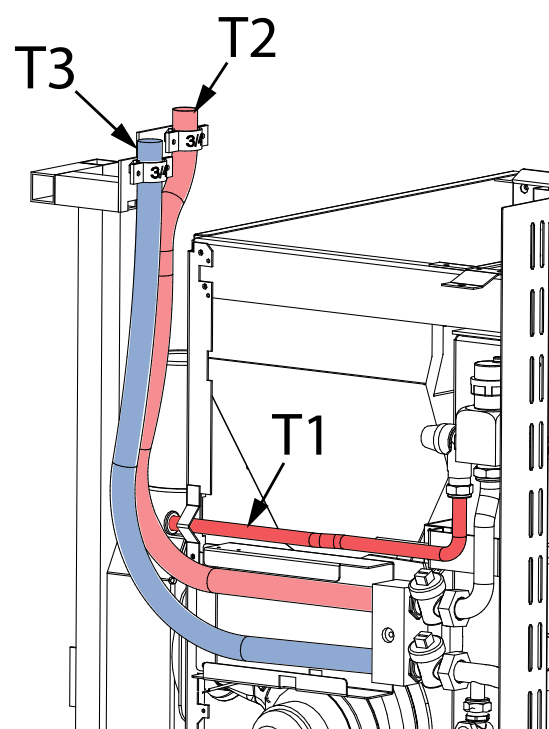
Valve sold as an accessory (optional)

HYDRAULIC PLANT BASIC LAYOUT

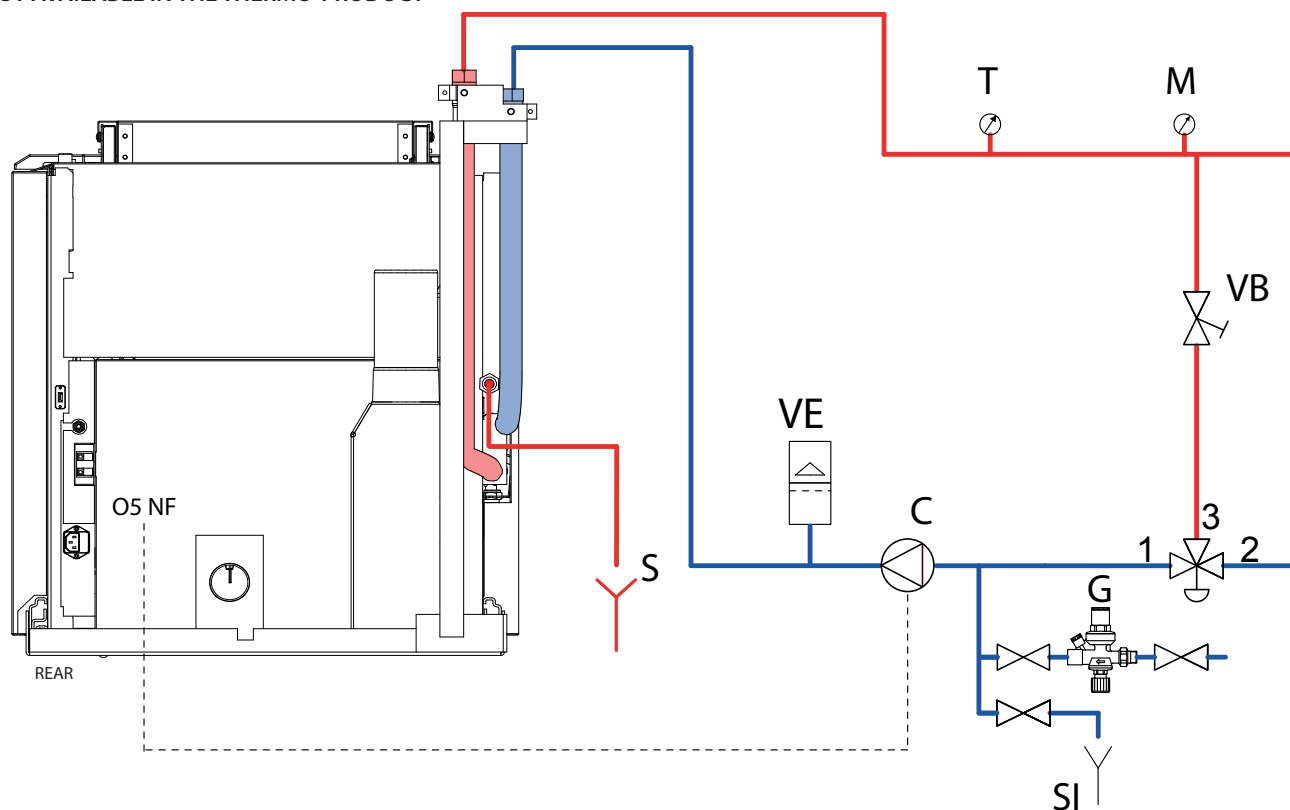
NOTE:

the drawing in the figure is an example.

KEY	
A	Primary air inlet
B	Smoke exhaust outlet
*C	Circulator
T1	3 bar safety outlet
T2	Boiler flow / output
T3	Boiler return / inlet
M	Pressure Gauge
T	Thermometer
G	Filling system
S	Safety valve discharge
VB	Balance valve
SI	System exhaust
*VE	Expansion vessel
O5 NF	Board clamp for circulator power supply



* NOT AVAILABLE IN THE THERMO-PRODUCT



IT IS RECOMMENDED TO CONSULT THE TEMPLATES MANUAL ON THIS WEBSITE FOR FURTHER INFORMATION RELATING TO THE HYDRAULIC CONNECTIONS, AIR INTAKE/FLUE EXHAUST AND DIMENSION SPECIFICATIONS OF THE PRODUCT IN QUESTION.

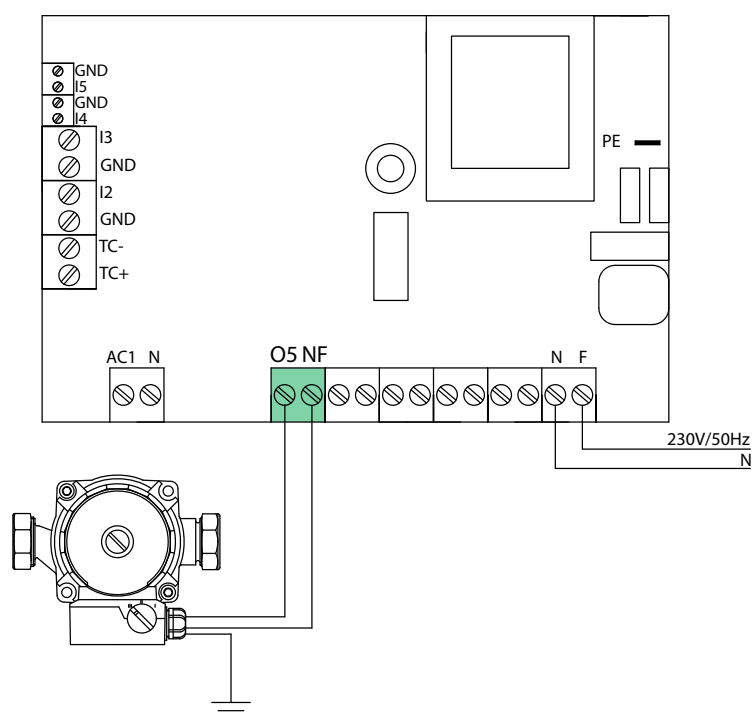
FEATURES

Water content of the thermo-product heat exchanger (l)	7
Volume of expansion vessel integrated in the thermo-product (l)	/
Maximum content of water in the system for integrated expansion vessel (l)*	/
3 bar safety valve integrated in the thermo-product	YES
Minimum and maximum pressure switch integrated in the thermo-product	YES
Pump integrated in the thermo-product	NO
Circulator max. head (m)	/

CIRCULATOR CONNECTION IN BOARD

The figure below shows the inlet - power supply "O5 NF" for the circulator.

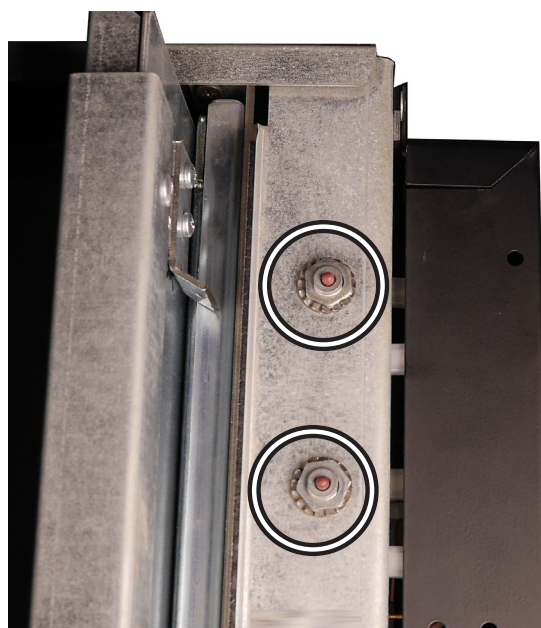
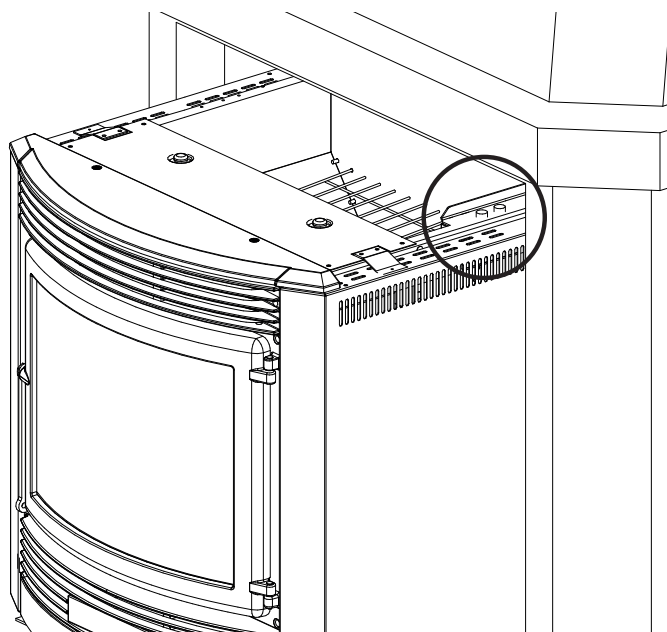
The circulator is not available in the thermo-product.



REARMS

The figure below illustrates the positions of the tank (85°C) and H2O (100°C) rearms.

Contact the qualified technician if one of the rearms should be triggered, so as to verify the cause.



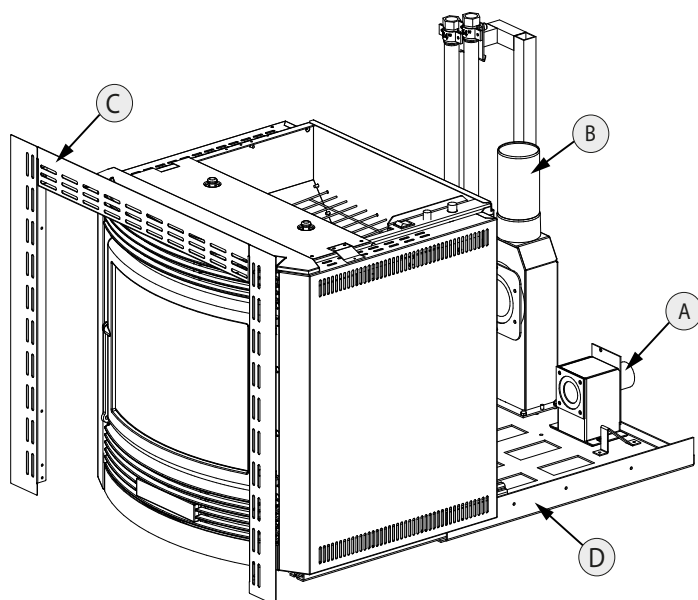
INSERTO COMFORT IDRO INSTALLATION

The insert is supplied with a sliding metal base that allows it to be installed in a pre-existing flue.

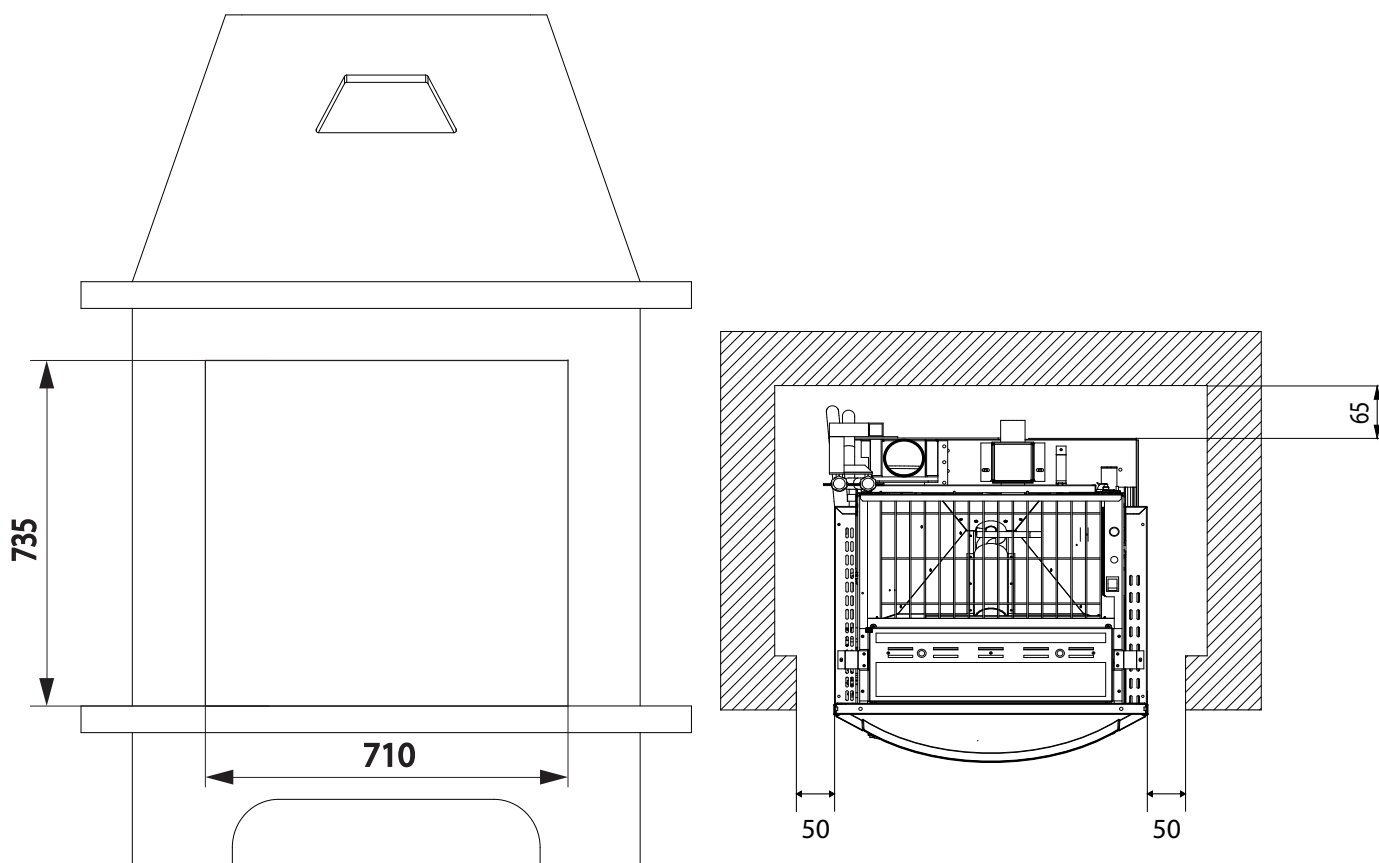
The sliding base allows the easy extraction of the insert both for feeding pellets into the feed-box and for any maintenance or cleaning at the end of the season. If there is no pre-existing flue, it can be built using the insert support pedestal (optional kit); in fact, the latter attaches the insert to the floor.

COMPONENTS DESCRIPTION:

- A. Primary air intake pipe
- B. Flue exhaust pipe
- C. Adaptation frame
- D. Sliding base and rails



MINIMUM DIMENSIONS



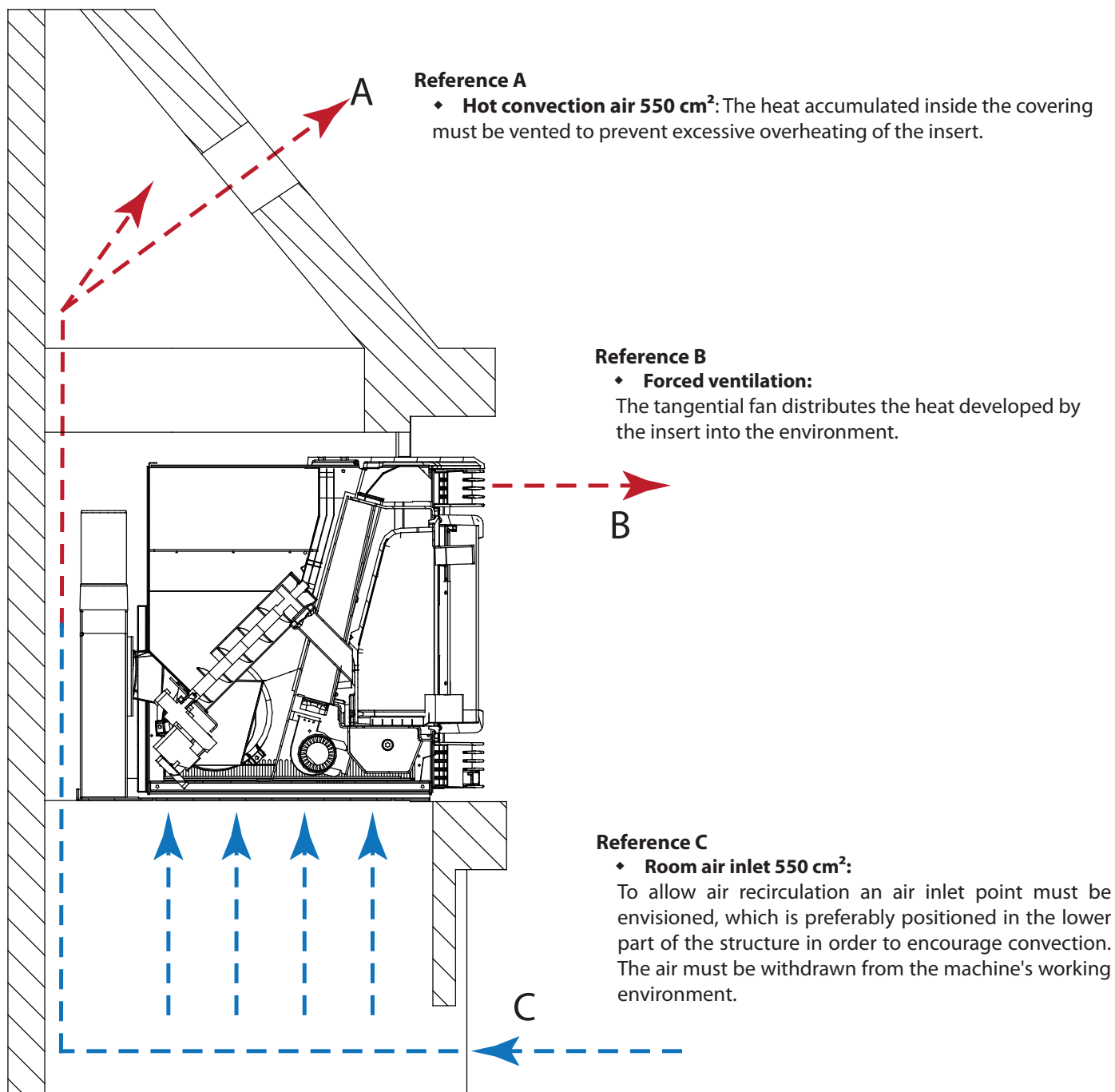
AIR CIRCULATION PIPES

Create air recirculation inside the structure that covers the insert for correct operation. This prevents the appliance from overheating.

To guarantee this, just make one or more openings in the lower and upper parts of the covering.

The following measurements must be respected:

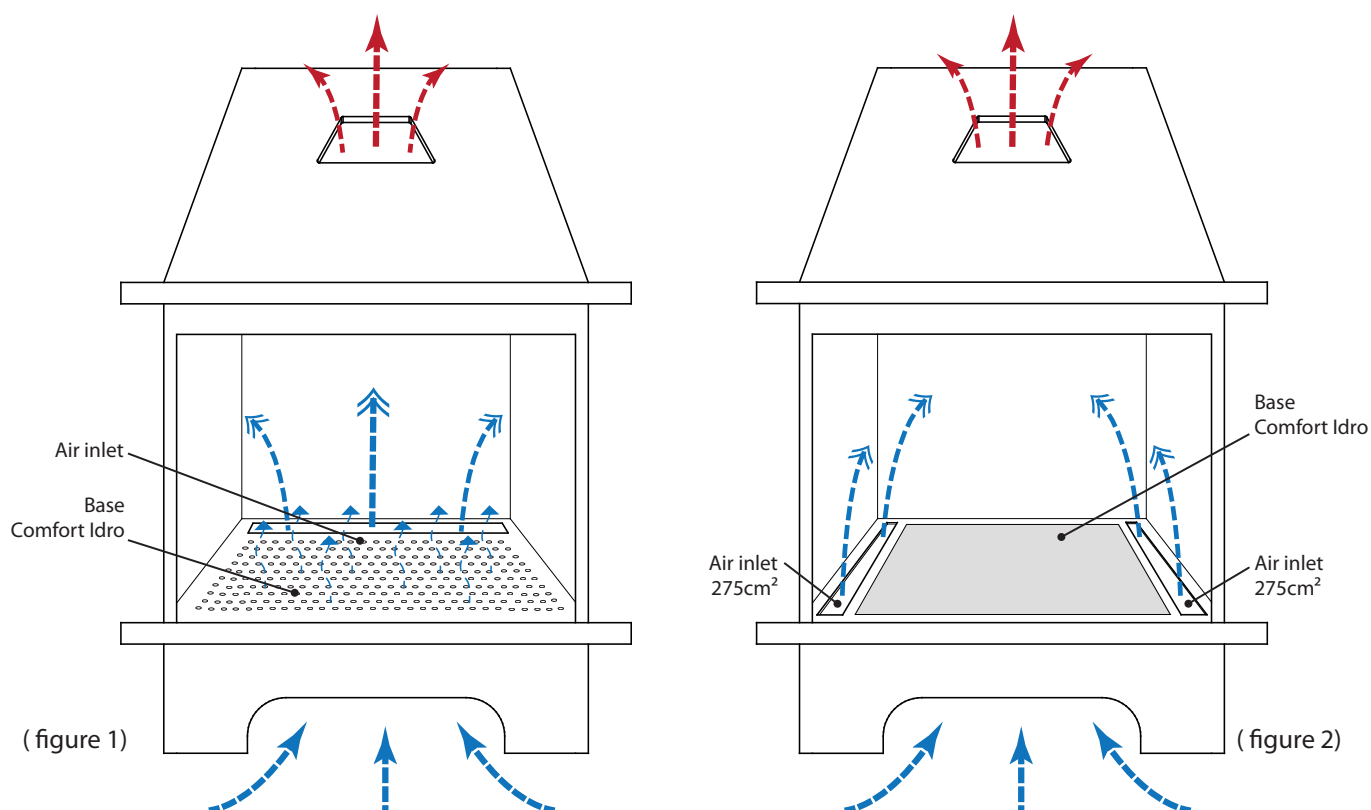
- ♦ **LOWER PART (COLD AIR INLET) WITH TOTAL MINIMUM SURFACE 550 CM².**
- ♦ **UPPER PART (HOT AIR OUTLET) WITH TOTAL MINIMUM SURFACE 550 CM².**



THE FLUE OUTLET PIPE MUST ALWAYS MAINTAIN A MINIMUM DISTANCE OF 50 MM FROM INFLAMMABLE PARTS.

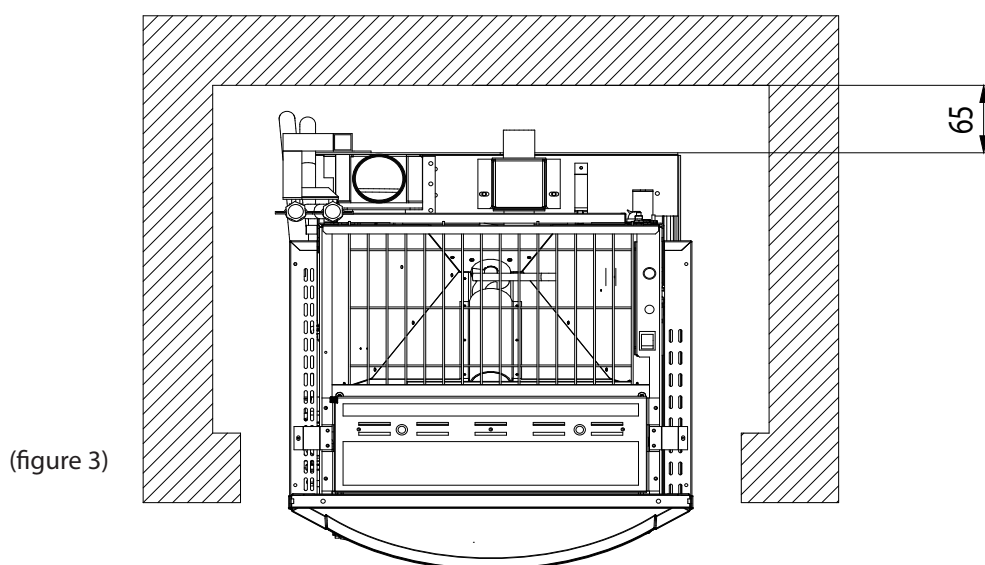
Make a hole at the base of the flue (figure 1) for air circulation and to ensure the required combustion air for proper insert combustion.

If it is not possible to make a hole at the centre of the base, make two openings to the sides of the base, equal to the 550cm² overall lower inlet (2 x 275cm²) (See figure 2).



In order for the insert to work properly, observe the measurements contained in the "*MINIMUM DIMENSIONS*" when building the chimney that must be made of non-flammable material.

As well as the dimensions of the stove given in the technical features, consider at least 65 mm of air at the back of the insert. (see figure 3)



THIS VENTILATION SYSTEM IS TOTALLY INDEPENDENT FROM THE AIR INTAKE FOR COMBUSTION!!

ASSEMBLY WITH SLIDING BASE

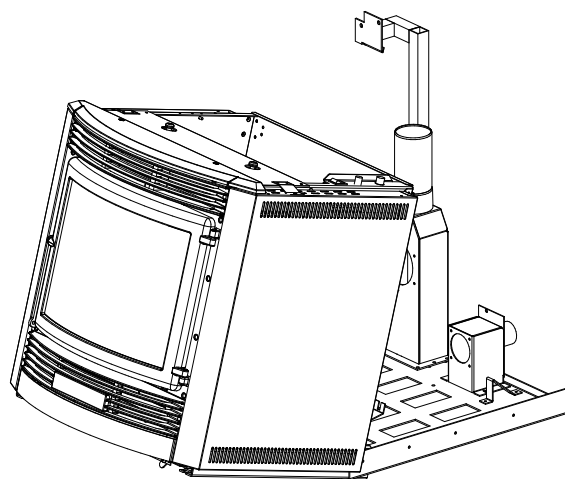
Take the sliding base and position it in the pre-existing flue. Use chalk to mark the blocking holes of the base on the flue surface. Drill 8 mm holes for the steel expansion inserts. Make a hole measuring 60 mm in line with the air intake.

Remember the power socket on the rear of the insert so that the plug is accessible once installation is completed.

Fix the base using the clamping screws.

Create a flue exhaust and socket connection respecting the points described previously.

Take the insert, tilt it so that the wheels fit into the relative rails, make it run until the flue gas insert is completely inserted into the flue gas conveyor box.



PEDESTAL ASSEMBLY (OPTIONAL):

Position the base in the desired point and use the feet to adjust the desired height (the bolts are positioned in the four external sides of the pedestal in the lower part).

Remember the power socket on the rear of the pedestal so that the plug is accessible once installation is completed.

Fix the pedestal to the floor using strong steel plugs with a diameter of 8 mm.

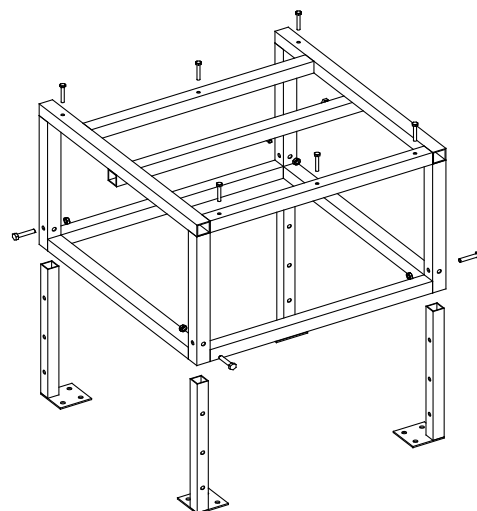
Fix the sliding base to the frame using bolts.

Connect the flue gas exhaust pipe and the air vent as stated in the previous paragraph.

Take the insert, tilt it so that the wheels fit into the relative rails, make it run until the flue gas auger is completely inserted into the flue gas conveyor box.

Finally open the fire door and use the supplied Allen key to turn the screw at the bottom left corner clockwise.

To understand whether the insert is correctly attached to the base, connect the plug to the socket and make sure the display switches on.



N.B.: If our pedestal is used, a slot must be created in the flue that allows the pellet level in the feed-box to be checked, thus preventing spillage during filling.

INSTALLATION OF THE HYDRAULIC PART

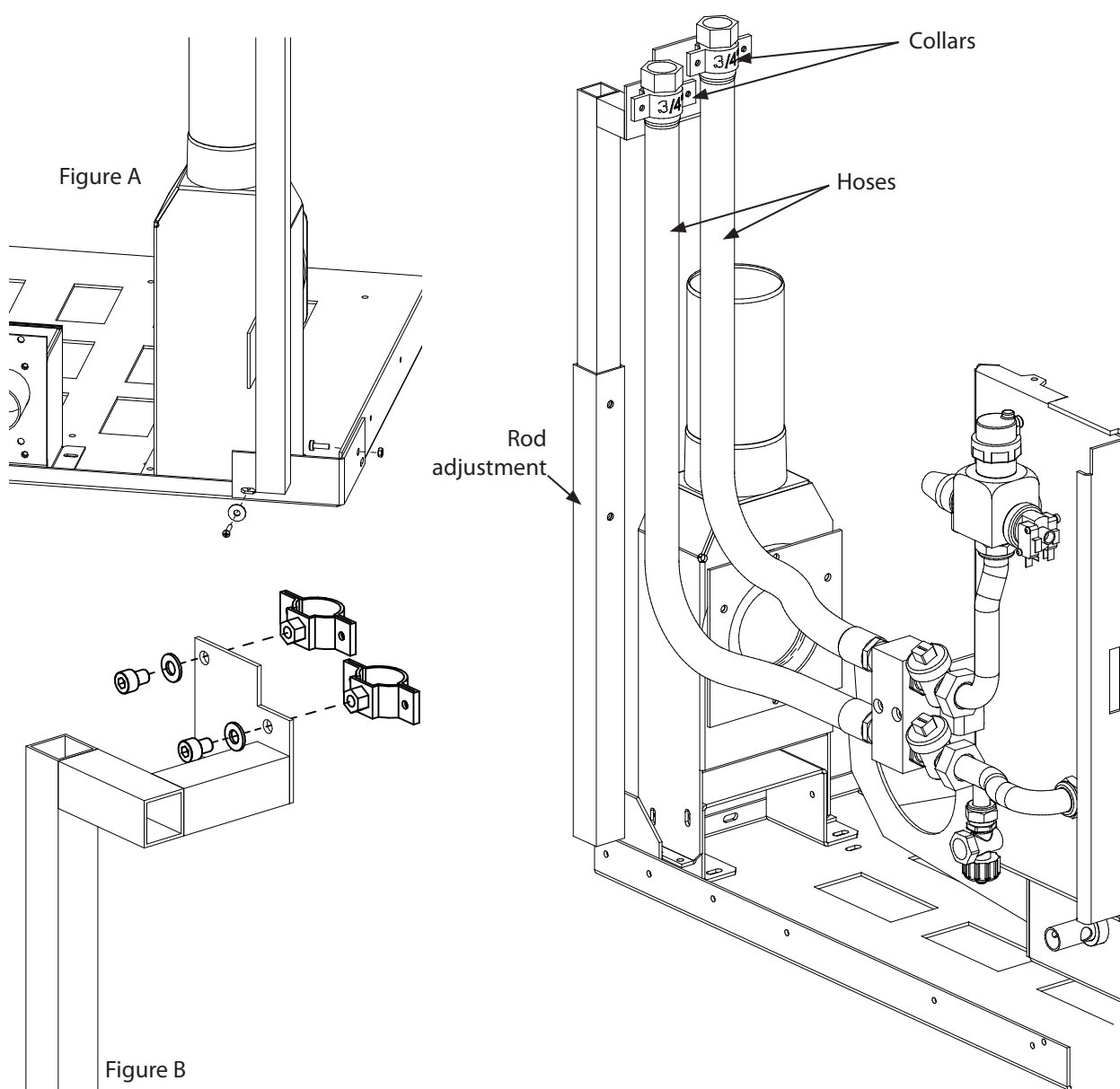
For the hydraulic connections it is possible to proceed in various ways in relation to the presence or not of the insert covering structure.

NO COVERING AVAILABLE

When covering is performed after the product has been installed, the connections to the hydraulic plant are made easier due to freedom of movement.

Before positioning the base in its definitive location, mount the following parts:

- the flexible pipe support rod, as indicated in figure A by the means of one M5 x 16 screw, the respective galvanised M5 nut and the burnished 3.9 x 22 self-threading screw (the latter must be unscrewed as it is already used to fix the flue conveyor pipe).
- The 2 collars with washer (figure B) and burnished TCEI M8 x 10 screw as the latter can only be reached from the rear.

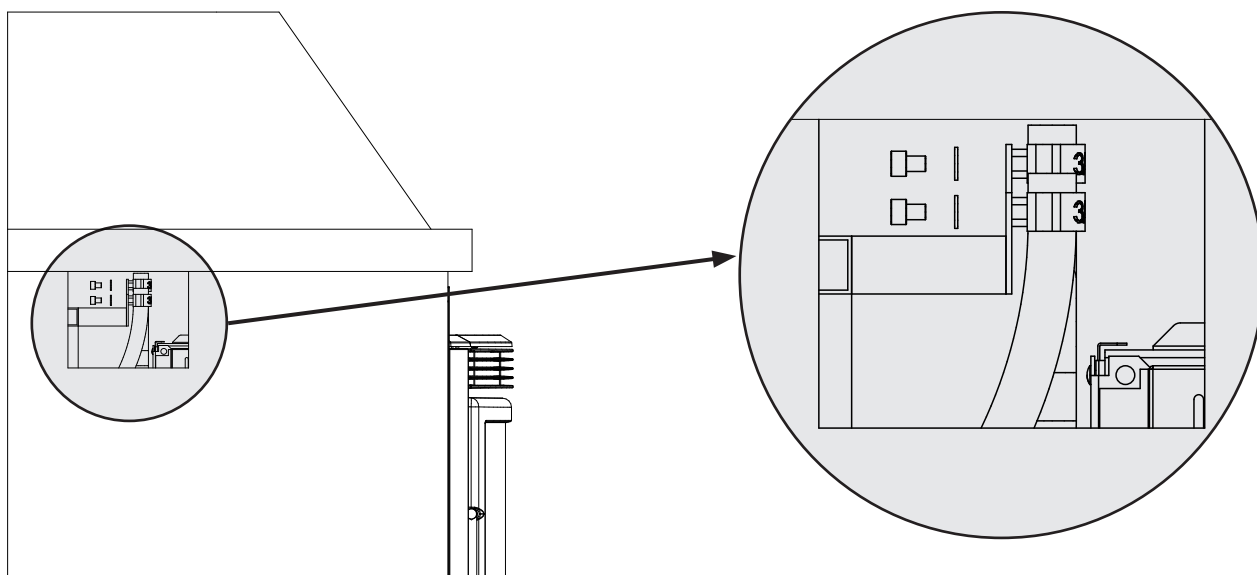


At this point it is possible to fix the base as described previously. Re-position the machine body and connect 2 flexible pipes to the rear support rod using the supplied screws; they will be successively connected to the hydraulic plant. The position of the 2 flexible pipes in the collars must be rigorously respected in order to prevent problems during handling.

ALREADY EXISTING COVERING

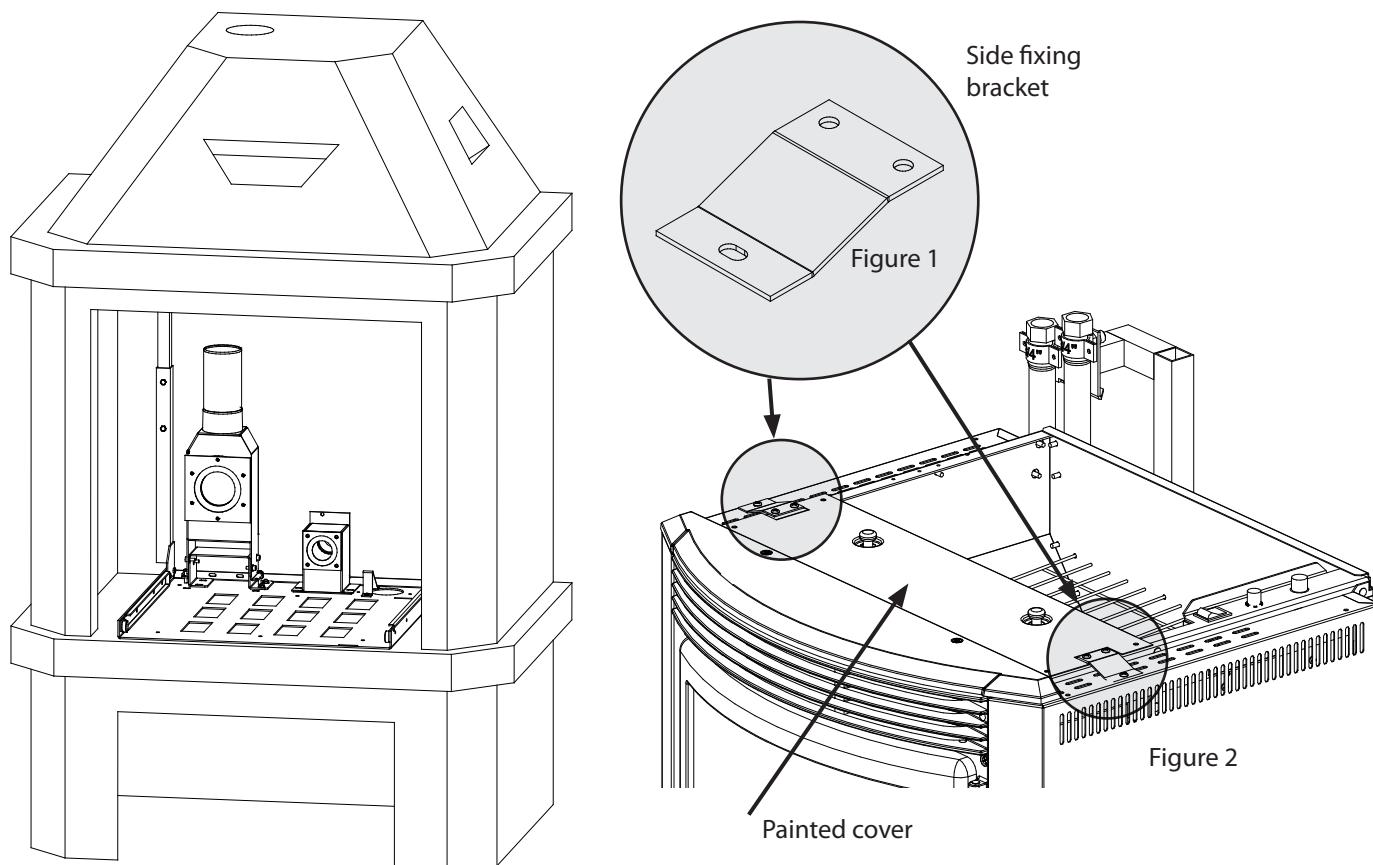
If the insert is installed inside an existing covering, it is possible to proceed in 2 different ways:

- ♦ Create a lateral opening on the left side of the covering to access the hoses at the height of the collars.

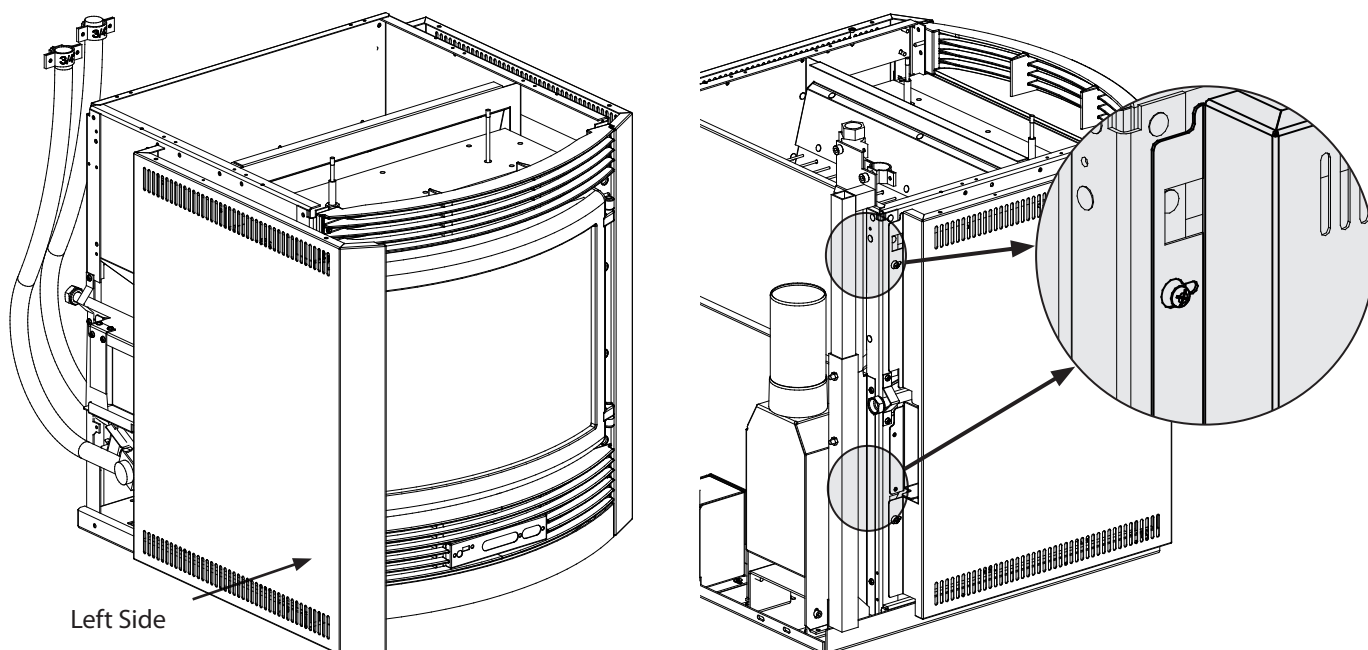


If it is not possible to make a lateral opening in the covering, follow the procedure given below.

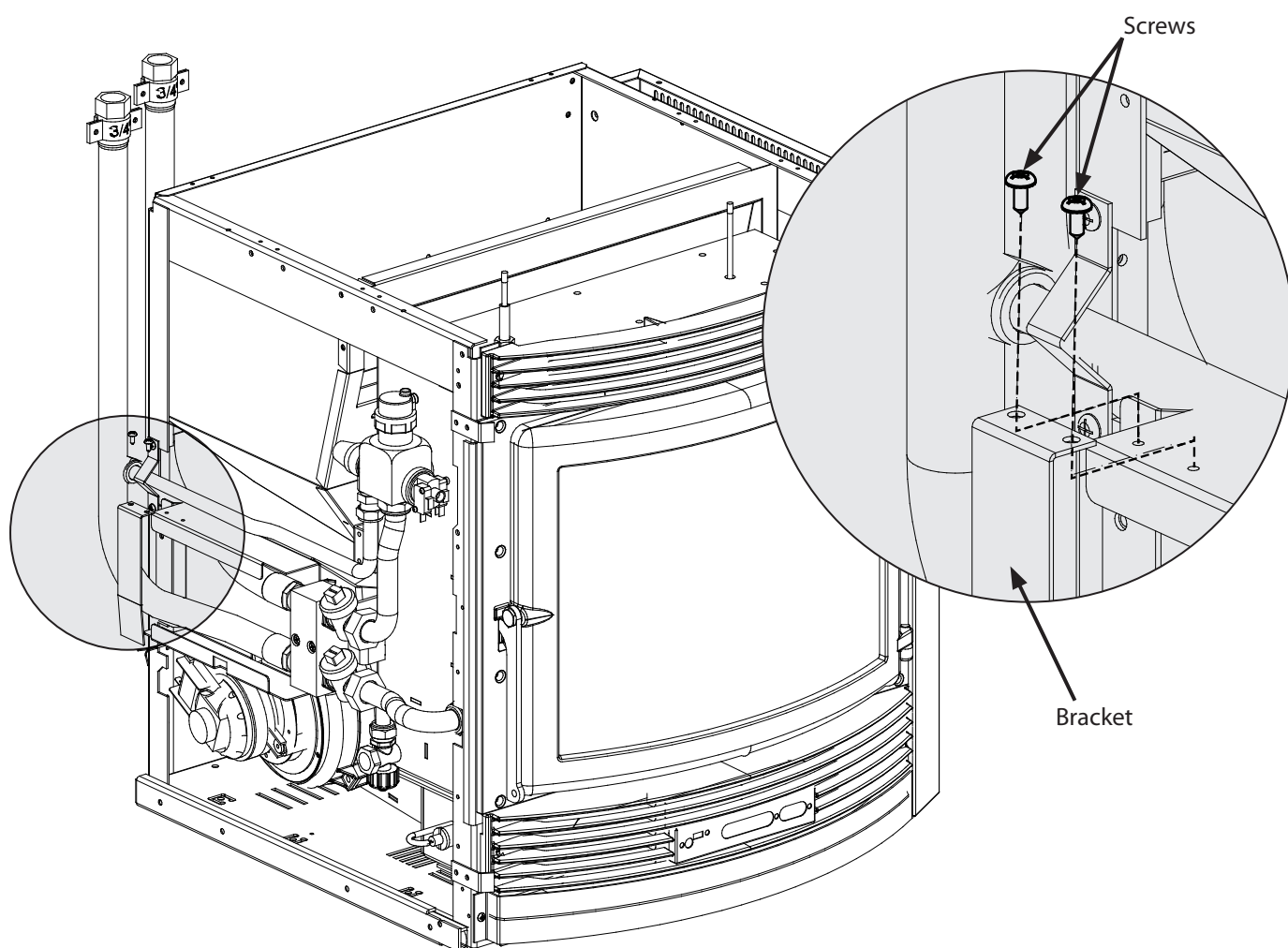
Release the machine body from the base with the sliding rails using the sequence described previously and fix the base, having already previously positioned the rod for the flexible pipes. Remove the painted cover by means of the 2 screws in the upper part that fix it and also remove the fixing bracket on the left side (see figure 1-2).



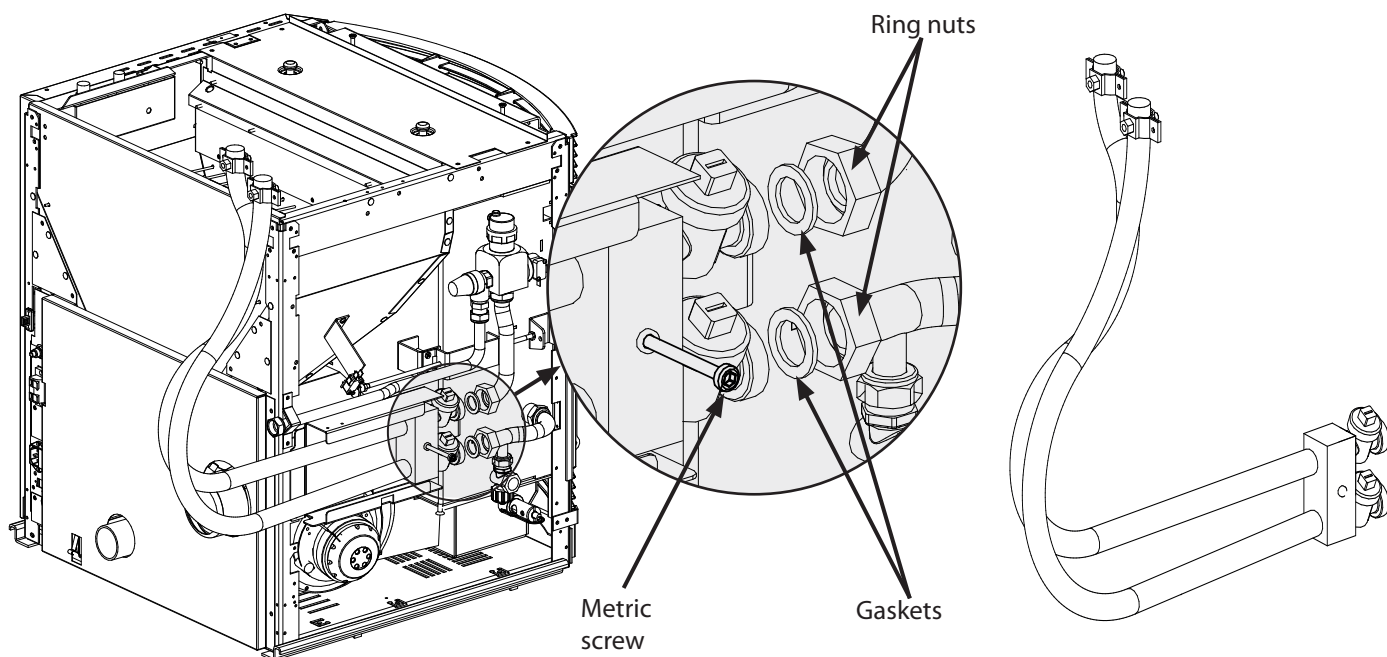
Remove the left side by pushing it forward:
during this operation the rear side must be removed from the screws by slight rotation, using the slots as illustrated in the figure below.



Remove the flexible pipe guide bracket by removing the 2 screws that fix it



Loosen the ring nuts on the 2 copper pipes and remove the metric screw that fixes the brass block to the machine body. At this point, it is possible to separate the brass block with the pipes from the rest of the insert.

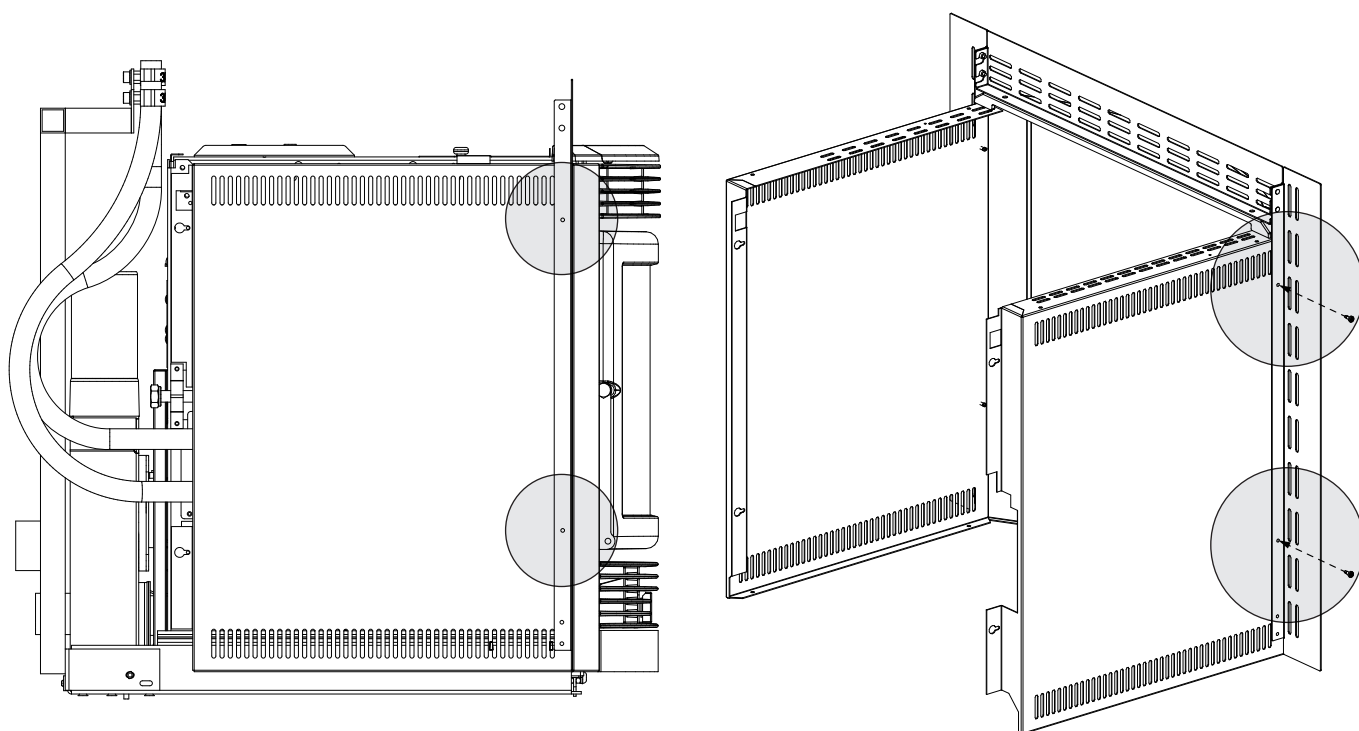


Proceed by connecting the pipes to the support rod and consequently to the system. Re-position the insert into the rails and restore the initial brass block situation, repeating the operations described above in the reverse order (first fix the block using the metric screw and then connect the ring nuts paying attention to the gaskets).

Re-mount the flexible pipe guide bracket, the left side with the relative blocking rod and the upper cover.

FRAMES

The lateral frames must be fixed using the 2 supplied burnished 4.2 x 9.5 self-threading screws per side. The 2 sides are already perforated for fixing the frames themselves.



PELLETS AND FEEDING

Pellets are made by subjecting wood shavings i.e. the rejects of pure wood (without paint) sawmill, carpenter products and products from other activities connected to working and transforming wood, to very high pressures.

This type of fuel is fully ecological as no glues are used to hold it together. In fact, the compactness of the pellets is guaranteed over time by a natural substance that is found in wood: lignin.

As well as being an ecological fuel, as wood residues are made the most of, the pellet also has technical advantages.

While wood has a calorific value of 4.4 kW/kg. (with 15% humidity, therefore after about 18 months seasoning), that of the pellet is 5 kW/kg.

Pellet density is about 650 kg/m³ and water content is equal to 8% of its weight. For this reason the pellets do not need to be seasoned in order to obtain a sufficiently adequate heat yield.

The pellet used must comply with the features described by Standards:

- ♦ **EN PLUS - UNI EN 14961 - 2 (UNI EN ISO 17225-2) class A1 - A2**

The Manufacturer recommends using pellets with a diameter of 6mm with its products.

PELLET STORAGE

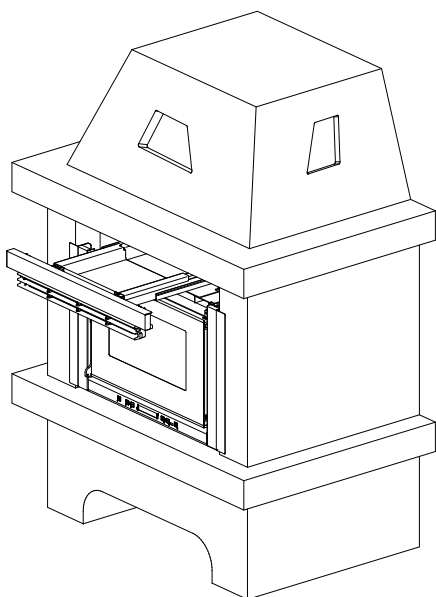
To guarantee combustion without problems, the pellets must be kept in a dry place.



**THE USE OF POOR QUALITY PELLETS OR ANY OTHER MATERIAL DAMAGES THE FUNCTIONS OF YOUR STOVE AND CAN VOID THE WARRANTY AND THE ANNEXED RESPONSIBILITY OF THE MANUFACTURER.
TO GUARANTEE COMBUSTION WITHOUT PROBLEMS, THE PELLETS MUST BE KEPT IN A DRY PLACE.**

FRONT PELLET FEEDING KIT (OPTIONAL)

The optional pellet feeding kit allows pellets to be fed into the feed-box from the front without having to extract the insert (operation that requires machine switch-off).

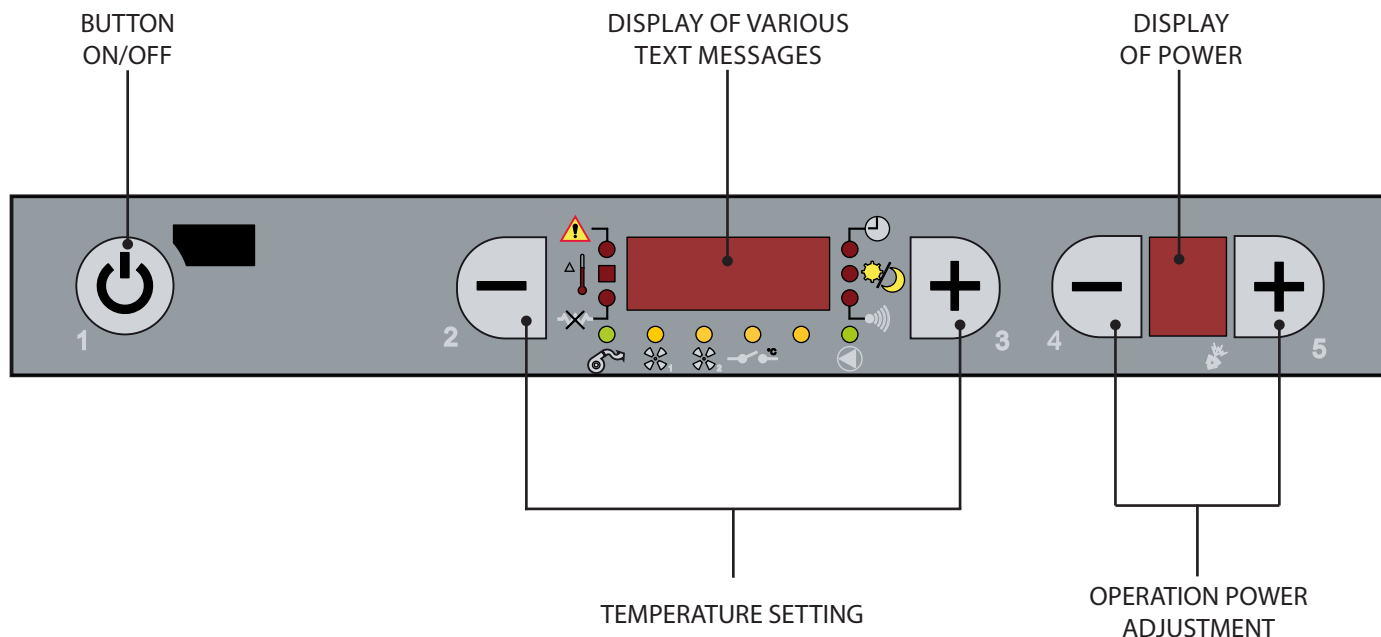


Further information on the accessories is available on the website in the category "accessories".



IN THE EVENT OF INSTALLATION WITH FEEDING KIT (OPTIONAL) THE MACHINE MUST NOT BE EXTRACTED.

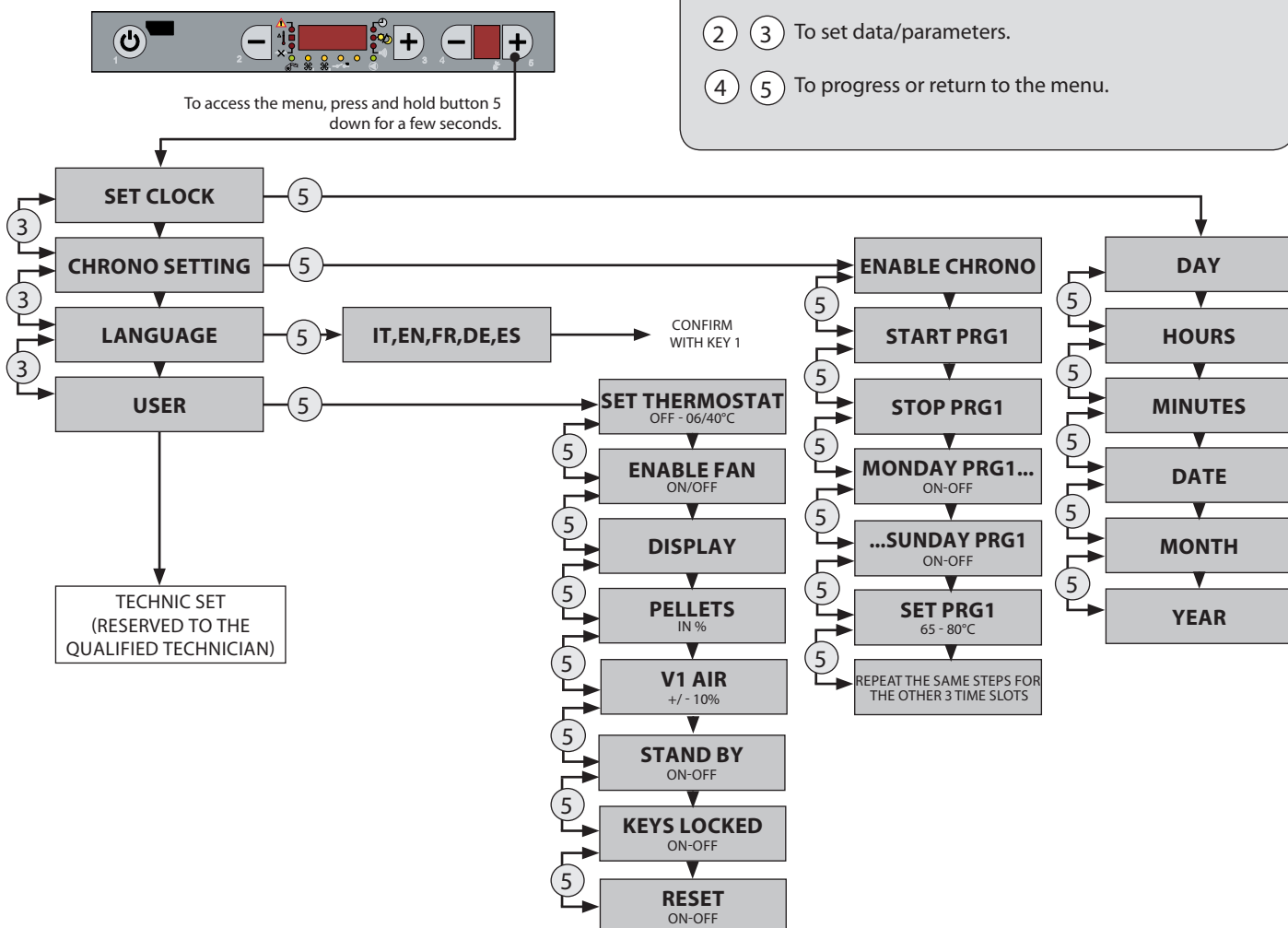
CONTROL PANEL



DISPLAY ICONS KEY

	Indicates the presence of an alarm. On: indicates the presence of an alarm Off: indicates the absence of alarms Flashing: indicates the deactivation of the depression sensor.		It indicates weekly programming functioning Indicator on = weekly programming active Indicator off = weekly programming disabled
	Indicates the room temperature status Off = the T° read by the probe is above the set temperature On = the T° read by the probe is below the set temperature		Indicates the stby function Off = Stby deactivated On = Stby activated
	Ignition plug Off = ignition plug active On = ignition plug deactivated Flashing = Ignition phase		Additional external thermostat input status Off = open contact On = closed contact
	It indicates fumes motor operation. Off = fumes motor not working On = fumes motor working Flashing = breakdown		It indicates the communication between remote control and stove. Every time a key is pressed on the remote control the indicator must switch on. If the indicator is always on it indicates that the communication between remote control and stove is blocked.*
	It indicates functioning of the tangential fan Off = not working On = working Flashing = Motor at minimum		It indicates pump operation Off = pump deactivated On = pump active
	Not used		Not used
			It indicates pellet feed motor operation Off = pellet feed motor disabled On = pellet feed motor active

GENERAL MENU



BASIC INSTRUCTIONS

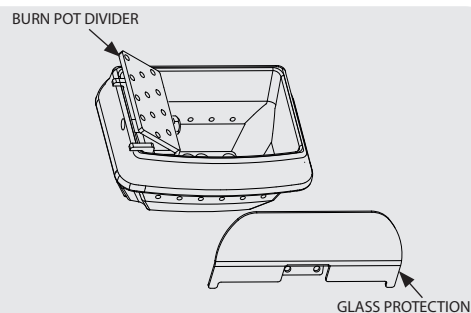
The following recommendations must be followed the first times the stove is ignited:

- ♦ Faint smells may be produced due to the drying of the paints and silicones used. Do not remain in the environment for long periods.
- ♦ Do not touch the surfaces as they could still be unstable.
- ♦ Air the room well several times.
- ♦ The hardening of the surfaces is terminated after several heating processes.
- ♦ This appliance must not be used to burn waste.

Before lighting the stove, the following points must be verified:

- ♦ The hydraulic system must be completed in compliance with the guidelines of the regulations and the manual.
- ♦ The tank must be full of pellets.
- ♦ The combustion chamber must be clean.
- ♦ The burn pot must be completely free and clean.
- ♦ Check the hermetic closure of the fire door and the ash drawer.
- ♦ Check that the power supply cable is connected correctly
- ♦ The bipolar switch in the rear right part must be positioned on 1.

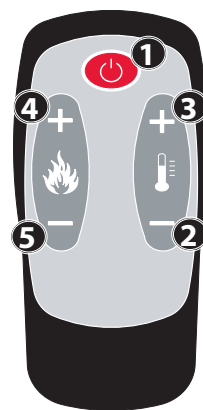
IT IS FORBIDDEN TO USE THE APPLIANCE WITHOUT THE DIVIDER AND/OR GLASS PROTECTION (SEE THE FIGURE TO THE SIDE). ITS REMOVAL JEOPARDISES THE SAFETY OF THE PRODUCT AND IMMEDIATELY VOIDS THE WARRANTY PERIOD. IN THE EVENT OF WEAR OR DETERIORATION CONTACT THE ASSISTANCE SERVICE TO REPLACE THE PART. (THE REPLACEMENT IS NOT COVERED BY THE PRODUCT WARRANTY AS IT IS A PART SUBJECT TO WEAR).



REMOTE CONTROL

The heating power, the desired room temperature and the appliance ignition/switch off, can be adjusted using the remote control.

To ignite the stove, press key 1 for a few seconds; the appliance will automatically enter the ignition phase. It is possible to adjust power by using keys 4 and 5, whereas the desired temperature can be adjusted using keys 2 and 3. To switch the stove off, press and hold key 1 for a few seconds.

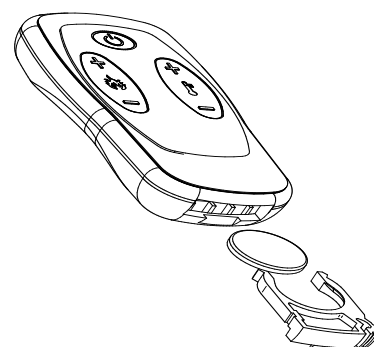


TYPE AND REPLACEMENT OF BATTERIES

The batteries are housed in the lower part of the remote control. To replace them, remove the battery holder (as indicated in the figure at the back of the remote control), remove or insert the battery following symbols on the remote control and on the battery.

For operation, 1 CR2025, 3V lithium buffer battery is required.

The batteries used contain metals harmful for the environment. Therefore, they must be disposed of separately in appropriate containers.



COMMISSIONING SETTINGS

Once the power cable at the back of the stove has been connected, move the switch, also located on the back, to (I). The switch at the back of the stove powers the stove board. The stove remains off and a first screen appears on the panel reading OFF.

ADJUSTING TIME, DAY, MONTH AND YEAR

CONTROLS PROCEDURE

- Press key 5 for a few seconds, until the text SET CLOCK appears.
- Confirm using key 5.
- Use key 3 to select the day.
- Press key 5.
- Follow the same procedure (5 to move forward, 3 to set) to adjust the hours, minutes, day, month and year.
- Press key 1 several times to confirm and exit the menu.

SET CLOCK	
DAY	MON, TUE, WED, ...SUN
HOURS	0...23
MINUTES	00...59
DATE	1...31
MONTH	1...12
YEAR	00...99

ADJUSTING LANGUAGE

CONTROLS PROCEDURE

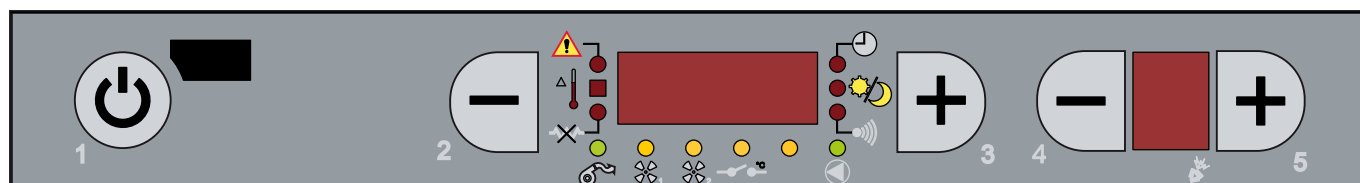
- Press key 5 for a few seconds, until the text SET CLOCK appears.
- Press key 3 twice until set Language appears.
- Confirm using key 5.
- Select the language using key 3.
- Press key 1 several times to confirm and exit the menu.

LANGUAGE	ITALIAN
	ENGLISH
	GERMAN
	FRENCH
	SPANISH



DO NOT USE ANY INFLAMMABLE LIQUIDS FOR IGNITION!
DO NOT ALLOW THE BAG OF PELLETS TO COME INTO CONTACT WITH THE BOILING HOT STOVE DURING THE FILLING PHASE!
IN THE EVENT OF CONTINUOUS NO IGNITION, CONTACT AN AUTHORISED TECHNICIAN.

OPERATION AND LOGIC



IGNITION

Once the points listed previously have been checked, press key 1 for three seconds to ignite the stove.

15 minutes are available for the ignition phase. After ignition and having reached the control temperature, the stove interrupts the ignition phase and passes to STARTING.

STARTING

During the start-up stage, the stove stabilises combustion, increasing it gradually, to then start ventilation and switch to the WORK mode.

WORK

During the work phase, the stove reaches the set power; see following item.

ADJUSTING POWER SETTING

Set the functioning power from 1 to 5 (settable using keys 2 - 3).

Power 1 = minimum level - Power 5 = maximum level.

H2O TEMPERATURE SET ADJUSTMENT

Set the boiler temperature from 65 - 80°C (settable using keys 4 - 5).

PUMP OPERATION

The pump activates water circulation when the temperature of the water inside the stove reaches approx. 60°C. As the pump always functions above 60°, an always-open heating area is recommended to make product functioning homogeneous, avoiding overheating blocks. Normally this area is defined as a "Safety zone".

ENVIRONMENTAL TEMPERATURE (in the applicable models)

The front ventilation can be activated/deactivated and the room temperature controlled by means of the room probe (as per standard). (See the "enable fan" chapter on the following pages.)

BURN POT CLEANING

During the work stage, the stove has an internal counter which cleans the burn pot after a set amount of time.

This stage will be shown on the display, it will bring the stove to a lower power level and will increase the fumes motor for a programmed amount of time. When the cleaning stage is finished, the stove will continue its work, going back to the selected power level.

MODULATION and H-OFF

As the water temperature approaches the set point, the boiler starts to modulate automatically bringing itself to the minimum power.

If the temperature increases beyond the set point, it will automatically switch off indicating **H-OFF** and will automatically go back on when the temperature drops below the set point.

SWITCH-OFF

Press key 1 for three seconds.

When the operation has been performed, the appliance automatically enters the switch-off phase, blocking the supply of pellets.

The fumes motor and the hot air ventilation motor will remain on until the temperature of the stove has dropped below the factory parameters.

RE-IGNITION

The stove can only be re-ignited automatically or manually when the cooling cycle conditions and the preset timer have been satisfied.

NO IGNITION



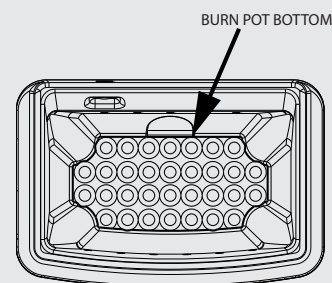
FIRST IGNITION COULD EVEN FAIL AS THE AUGER IS EMPTY AND IS NOT ALWAYS ABLE TO LOAD THE BURN POT WITH THE REQUIRED AMOUNT OF PELLETS ON TIME TO REGULARLY START THE FLAME. IF THE PROBLEM OCCURS AFTER ONLY A FEW MONTHS WORKING, CHECK THAT ROUTINE CLEANING STATED IN THE STOVE BOOKLET, HAS BEEN CARRIED OUT CORRECTLY.

CLEAN CHECK UP 1 - 2



SHOULD THE "CLEAN CHECK UP" ALARM BE TRIGGERED, MAKE SURE THAT THE BOTTOM OF THE BURN POT IS FREE OF RESIDUE OR BUILD-UP. THE HOLES AT THE BOTTOM MUST BE COMPLETELY FREE TO GUARANTEE CORRECT COMBUSTION. (SEE CHAPTER "CLEANING UNDER USER'S RESPONSIBILITY")

THE "PELLET FEED REGULATION" FUNCTION CAN BE USED TO ADJUST COMBUSTION BASED ON THE DESCRIBED REQUIREMENTS. IF THE ALARM PERSISTS AND THE ABOVE LISTED CONDITIONS HAVE BEEN CHECKED, CONTACT THE QUALIFIED AFTER-SALES ASSISTANCE CENTRE.



ADDITIONAL THERMOSTAT

N.B. : Installation must be performed by an authorised technician.

There is a possibility to thermostat a room adjacent to the room where the stove is positioned: just connect a thermostat following the procedure described in the next step (it is recommended to position the optional mechanical thermostat at a height of 1.50 m from the floor) . Stove functioning with the external thermostat connected in the STBY clamp can be different on the basis of the activation or disabling of the STBY function.

The STBY clamp leaves the factory jumpered, therefore it is always with closed contact (on request).

ADDITIONAL THERMOSTAT FUNCTIONING WITH STBY ACTIVE

When the STBY function is activated, the  LED flashes. When the contact or external thermostat is satisfied (open contact / temperature reached), the stove will switch off. As soon as the contact or external thermostat switches to the "not satisfied" status (closed contact/temperature to be reached) it will re-ignite.

N.B.: stove operation depends on the temperature of the water inside the stove and relative factory setting restrictions. If the stove is in H OFF (water temperature reached), any additional contact or thermostat request will be ignored.

ADDITIONAL THERMOSTAT FUNCTIONING WITH STBY DEACTIVATED

When the STBY function is disabled, the  LED is fixed.

When the contact or external thermostat is satisfied (open contact / temperature reached), the stove will go to minimum. As soon as the contact or external thermostat switches to the "not satisfied" status (closed contact / temperature to be reached) the stove will start to work again at the pre-set power.

N.B.: stove operation depends on the temperature of the water inside the stove and relative factory setting restrictions. If the stove is in H OFF (water temperature reached), any additional contact or thermostat request will be ignored.

ADDITIONAL THERMOSTAT INSTALLATION

- ♦ Switch the appliance off using the master switch positioned on the rear of the stove.
- ♦ Remove the plug from the socket.
- ♦ Refer to the electrical layout to connect the two thermostat cables to the relative clamps positioned on the rear of the machine, one is red and the other black (STBY clamp).
- ♦ **The image is given as an example.**



REFER TO THE CHAPTER IN THE "USER MENU" TO ACTIVATE STAND BY

USER MENU

SET THERMOSTAT

The following menu allows you to set the room temperature of those products equipped with front fan. Once the set temperature is reached the fan will run at minimum speed.

The possible settings are: OFF - 06 ...40°C. The room temperature will be displayed alternately with the water temperature on the display.

CONTROLS PROCEDURE

- ♦ Press key 5 for a few seconds, until SET CLOCK appears.
- ♦ Press key 3 until SET USER appears.
- ♦ Confirm using key 5.
- ♦ Use buttons 2 -3 to select the room temperature.
- ♦ Press key 1 several times to confirm and exit the menu.

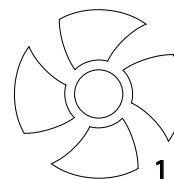


ENABLE FAN

This menu allows you to enable or disable the operation of the tangential fan.

CONTROLS PROCEDURE

- ♦ Press key 5 for a few seconds, until SET CLOCK appears.
- ♦ Press key 3 until SET USER appears.
- ♦ Confirm using key 5.
- ♦ Hold key 5 down until **ENABLE FAN** appears.
- ♦ Use keys 2-3 to enable/disable ventilation.
- ♦ Press key 1 several times to confirm and exit the menu.



DISPLAY

This menu allows the user to adjust the brightness of the display. The possible settings range from 10 to 31.

CONTROLS PROCEDURE

- ♦ Press key 5 for a few seconds, until SET CLOCK appears.
- ♦ Press key 3 until SET USER appears.
- ♦ Confirm using key 5.
- ♦ Hold key 5 down until **DISPLAY** appears.
- ♦ Use keys 2 -3 to adjust the brightness of the display.
- ♦ Press key 1 several times to confirm and exit the menu.



PELLET FEED ADJUSTMENT

The following menu allows the user to adjust the percentage of pellet feed.

If the stove has functioning problems owing to the quantity of pellets, adjust pellet feeding directly from the control board. The problems correlated to the amount of fuel can be divided into 2 categories:

NO FUEL:

- ♦ the stove can never develop a suitable flame, tending to remain very low even at high power.
- ♦ at minimum power the stove tends to almost switch-off taking the stove into "NO PELLETS" alarm condition.
- ♦ when the stove displays the "NO PELLETS" alarm, there may be non-burned pellets inside the burn pot.

EXCESS FUEL:

- ♦ the stove develops a very high flame even at low power.
- ♦ the panoramic glass is very dirty, obscuring it almost totally.
- ♦ the burn pot tends to become encrusted, blocking the holes for air intake due to the excessive pellet feed, as it is only burned partially.

The adjustment to be performed is in percentages. Therefore changing this parameter will lead to a proportional variation of all stove feeding speeds. Feeding is from -30% to +20%.

Follow the procedure on the display to perform the procedure:

CONTROLS PROCEDURE

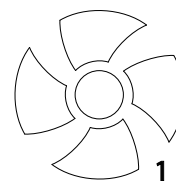
- ♦ Press key 5 for a few seconds, until the text SET CLOCK appears.
- ♦ Press key 3 UNTIL set user appears.
- ♦ Confirm using key 5.
- ♦ Hold key 5 down until **PELLET** appears.
- ♦ Use keys 2-3 to adjust the pellet feed.
- ♦ Press key 1 several times to confirm and exit the menu.

V1- AIR

The menu allows the user to adjust the speed of the front fan in percentage.

CONTROLS PROCEDURE

- ♦ Press key 5 for a few seconds, until SET CLOCK appears.
- ♦ Press key 3 until SET USER appears.
- ♦ Confirm using key 5.
- ♦ Hold key 5 down until **V1 FAN** appears.
- ♦ Use keys 2-3 to adjust the front ventilation speed.
- ♦ Press key 1 several times to confirm and exit the menu.

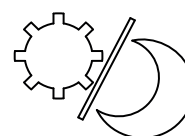


STAND - BY

The Stby function is used if immediate stove switch-off or modulation via additional external thermostat is desired.

CONTROLS PROCEDURE

- ♦ Press key 5 for a few seconds, until SET CLOCK appears.
- ♦ Press key 3 until SET USER appears.
- ♦ Confirm using key 5.
- ♦ Hold key 5 down until **STAND BY** appears.
- ♦ Use keys 2-3 to enable/disable the stby function.
- ♦ Press key 1 several times to confirm and exit the menu.



KEYS LOCKED

The menu allows the user to lock the display keys (like with mobile phones). Press keys 1 and 5 simultaneously. When the function is enabled, every time you press a key the message "CONSOLE BLOCKED" appears. Press keys 1 and 5 to release the console.

CONTROLS PROCEDURE

- ◆ Press key 5 for a few seconds, until the text SET CLOCK appears.
- ◆ Press key 3 until SET USER appears.
- ◆ Confirm using key 5.
- ◆ Hold key 5 down until **CONSOLE BLOCKED** appears.
- ◆ Use keys 2-3 to enable/disable ventilation.
- ◆ Press key 1 several times to confirm and exit the menu.

RESET

Allows the user to reset all values modifiable by the user to the default values. The modified data is the following:

CONTROLS PROCEDURE

- ◆ Press key 5 and **SET CLOCK** will appear.
- ◆ Press key 3 several times until **USER** is displayed.
- ◆ Press key 5.
- ◆ **SET THERMOSTAT** will appear
- ◆ Press key 5 until "**RESET**" appears.
- ◆ Press keys 3 to select **ON** and press key 5.
- ◆ "**DONE**" will appear on the display to confirm

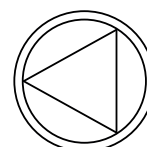
- ◆ SET H2O = 75°C
- ◆ SET TEMPERATURE = 35°C
- ◆ SET POWER = 5
- ◆ ENABLE CHRONO = OFF
- ◆ START PRG1=OFF
- ◆ STOP PRG1 = OFF
- ◆ MONDAY PRG1 = OFF
- ◆ all chrono parameters OFF
- ◆ PELLET = 00%
- ◆ STAND BY = OFF

AIR DISCHARGE

This function allows the user to bleed any air in the stove. Activates the function: The indicator lights will light up on the circulators on the display. (the circulators will be powered for 15 minutes and 30 seconds and then will stop for 30 seconds; cut the power to interrupt)

CONTROLS PROCEDURE

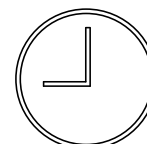
- ◆ Press key 1 and 4 simultaneously.
- ◆ The password will be required.
- ◆ Enter code "77" via key 4.
- ◆ Confirm using key 5.



CHRONO

The chrono allows the user to program 4 time spans within a day to use every day of the week.

The switch-on and switch-off time can be set in every time slot, along with the days of use of the programmed time slot and the desired water temperature (65 - 80°C).



Example:

Switch-on time 07:00 **CORRECT**
Switch-off time 18:00

Switch-on time 22:00 **INCORRECT**
Switch-off time 05:00

RECOMMENDATIONS

The ignition and switch-off times must be within the arc of one day, from 0 to 24 and not over several days:

Before using the chrono function, set the current day and time. Therefore check that the points listed in the "Set clock" sub-chapter have been followed, so that the chrono function works. Aside from programming it, activate it as well.

PROGRAMMING EXAMPLE

Let's suppose that the weekly programmer function is to be used and 4 time slots are to be used in the following way:
1st time slot: from 08:00 to 12:00 every day of the week, excluding Saturday and Sunday
2nd time slot: from 15:00 to 22:00 only on Saturday and Sunday, both times with a water temperature setting of 75°C
The display will show the various steps:

CONTROLS PROCEDURE:

Press key 5 for a few seconds, until the text SET CLOCK appears.

**SET
CLOCK**

Press key 3 once, the SET CHRONO text will appear.

**CHRONO
SETTING**

1ST TIME SLOT SWITCH-OFF

Use keys 2 - 3 to enter the time "12:00", which corresponds to the switch-off time of the 1st time slot.

To confirm and continue programming, press button 5. Press button 4 to go back to the previous parameter.

**STOP PRG1
12:00**

ENABLE CHRONO

Press key 5, **ENABLE CHRONO** and **OFF** will appear.

**ENABLE CHRONO
ON**

Press key 3 to activate or disable the **CHRONO** function. Select **ON**.

ENABLING THE 1ST TIME SLOT DAYS

To enable/ disable the days use keys 2 and 3; key 4 and 5 to scroll the various days, the day of the week will appear, followed by **OFF**

select from Monday to Friday on **ON**, excluding Saturday and Sunday (OFF)
 Proceed by pressing key 5.

**MONDAY..PRG1
ON-OFF**

Press key 5 to confirm and continue programming.

START PRG1 OFF will appear.

**START PRG1
OFF**

1ST TIME SLOT H2O TEMPERATURE SETTING

Use buttons 2 - 3 to select the desired **H2O** temperature. (65-80°C)

To confirm and proceed press key 5.

**SET PRG1
75°C**

1ST TIME SLOT SWITCH-ON

Use keys 2 - 3 to enter the time "08:00", which corresponds to the switch-on time of the 1st time slot.

To confirm and continue programming, press button 5. Press button 4 to go back to the previous parameter.

**START PRG1
08:00**

2ND TIME SLOT SWITCH-ON*

At this point, the second time slot must be programmed.

The sequence to be followed is the same and is repeated as per the 1ST TIME SLOT SWITCH-ON.

**START PRG2
OFF**

*2ND TIME SLOT SWITCH-ON

At this point, the second time slot must be programmed.

The sequence to be followed is the same and is repeated as per the 1ST TIME SLOT SWITCH-ON.

On this occasion simply enter the time, for example start at 15:00 and Stop at 22:00 and to activate the days Saturday and Sunday by setting them at "ON".



WHEN THE WEEKLY PROGRAMMER IS ACTIVE, A BOX OF THE RELATIVE ICON WILL APPEAR ON THE CONTROL BOARD.



CLEANING AND MAINTENANCE

ALWAYS FOLLOW THE INSTRUCTIONS UNDER 100% SAFE CONDITIONS!

- ♦ Make sure the power cable's plug has been pulled out, as the generator might have been programmed to turn on.
- ♦ Make sure all the parts of the generator are cold.
- ♦ The ashes are completely cold.
- ♦ Ensure enough ventilation in the room when cleaning the product.
- ♦ Poor cleaning affects correct operation and safety!

MAINTENANCE

To ensure correct operation, the generator must undergo routine maintenance by a **qualified technician**, at least once a year. Periodic inspection and maintenance operations must always be carried out by specialised technicians who are **authorised** and work in accordance with current regulations and the instructions reported in this user and maintenance manual.



EVERY YEAR, HAVE THE FLUE EXHAUST SYSTEM, SMOKE DUCTS AND T-SHAPED FITTINGS SUPPLIED AND INSPECTION PLUGS CLEANED - IF THERE ARE ANY BENDS AND ANY HORIZONTAL SECTIONS!

THE CLEANING SCHEDULE PROVIDED FOR THE GENERATOR IS ONLY MEANT AS A GUIDE! IT DEPENDS ON THE QUALITY OF THE PELLETS USED AND HOW OFTEN THE EQUIPMENT IS USED. THESE STEPS MAY NEED TO BE PERFORMED MORE OFTEN.

PERIODIC CLEANING TO BE CARRIED OUT BY THE USER

As specified in this user and maintenance manual, periodic cleaning operations must be performed with the utmost care after reading the instructions, procedures and times reported in this user and maintenance manual.

CLEANING THE SURFACES AND COVERING

Never use abrasive or chemically aggressive detergents to clean!

Surfaces must be cleaned when the generator and covering are completely cold. To carry out maintenance on surfaces and metal parts, just use a cloth dampened with water or water and neutral soap.

Failure to comply with the directions can damage the generator's surfaces and void the warranty.

CLEANING THE CERAMIC GLASS

Never use abrasive or chemically aggressive detergents to clean!

The ceramic glass must be cleaned only when the glass is completely cold.

To clean the ceramic glass, use a dry brush and a newspaper that has been dampened and passed through some ash. If the glass is very dirty, only use a detergent specifically designed for ceramic glass. Spray a modest amount on a cloth and use it on the ceramic glass. Do not spray the detergent or any other liquid directly onto the glass or gaskets!

Failure to comply with the directions can damage the surfaces of the ceramic glass and void the warranty.

CLEANING THE PELLET TANK

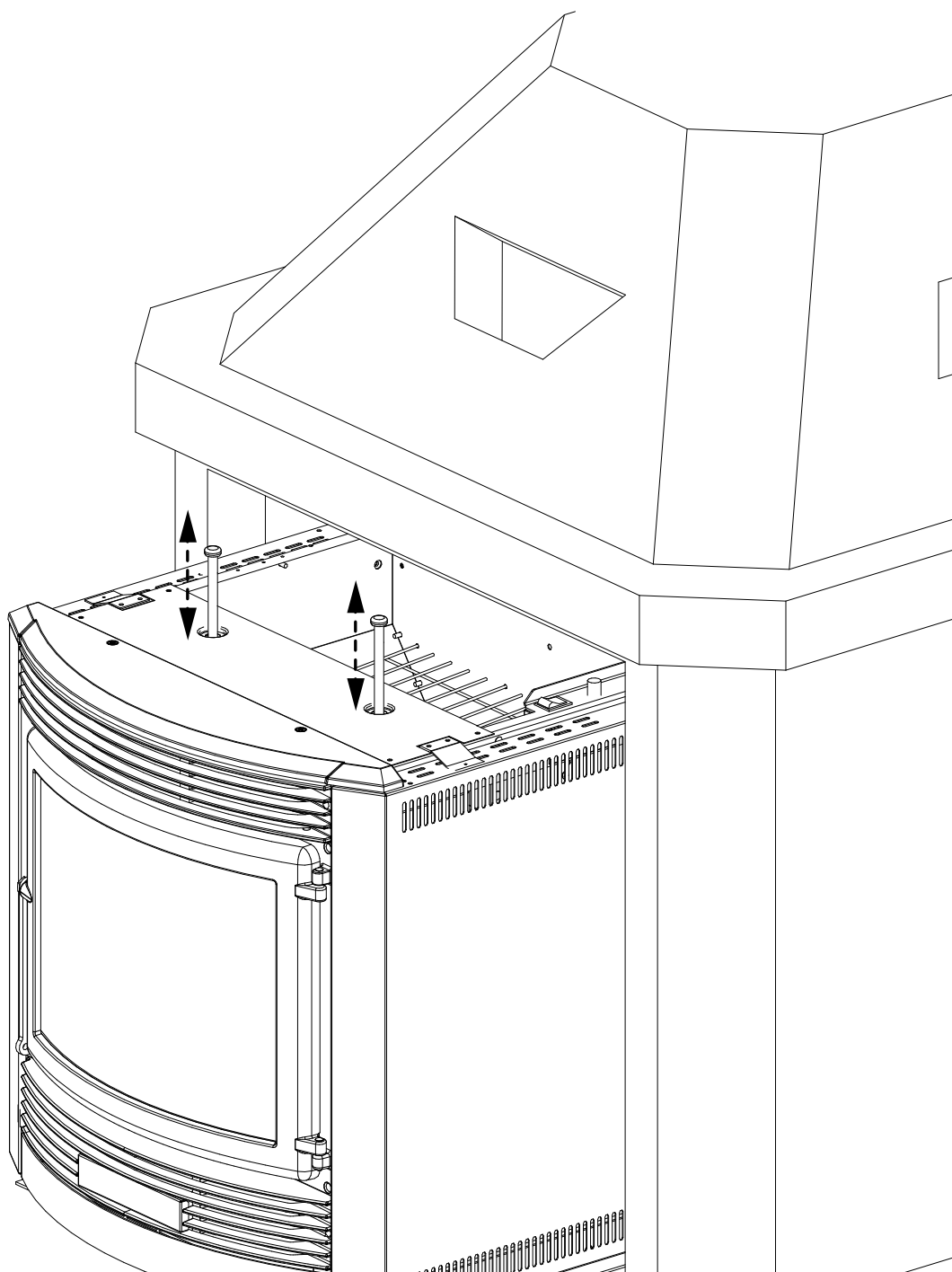
When the tank is completely empty, unplug the generator's power supply cable and first remove residues (dust, shavings, etc.) from the empty tank before emptying it.

DAILY

SCRAPERS:

Use the scrapers, moving upwards (for models with upper scrapers) or pulling and pushing them (for the inserts and models with front scrapers).

Please note: scrapers are preferably used when the stove is cold; if used when the stove is hot, it is recommended to use special gloves to protect against the heat as they can get very hot.



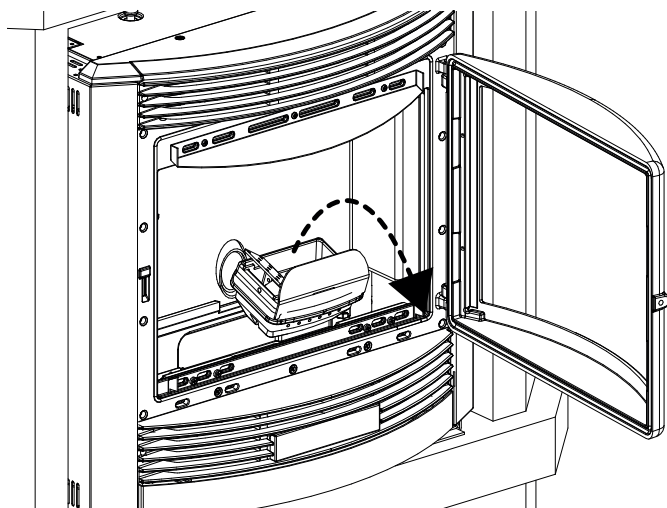
Open the door - Clean the glass with a damp cloth

Never spray the detergent or any other liquid used for cleaning directly on the ceramic glass

CLEANING THE BURN POT AND COMBUSTION CHAMBER

1. Vacuum the residues in the burn pot
2. Take out the burn pot from the designated compartment;
3. Vacuum the ash from the burn pot's seat and the combustion chamber (3.1)
4. Use the special poker supplied to clear the holes in the burn pot.
5. Place back the burn pot and push it towards the hearth wall.
6. If there is an ash collector tray, vacuum the ash deposits

PLEASE NOTE: USE A SUITABLE VACUUM CLEANER WITH A SPECIAL CONTAINER TO SEPARATE THE COLLECTED ASH.



EVERY 3/4 DAYS - WEEKLY

ASH DRAWER

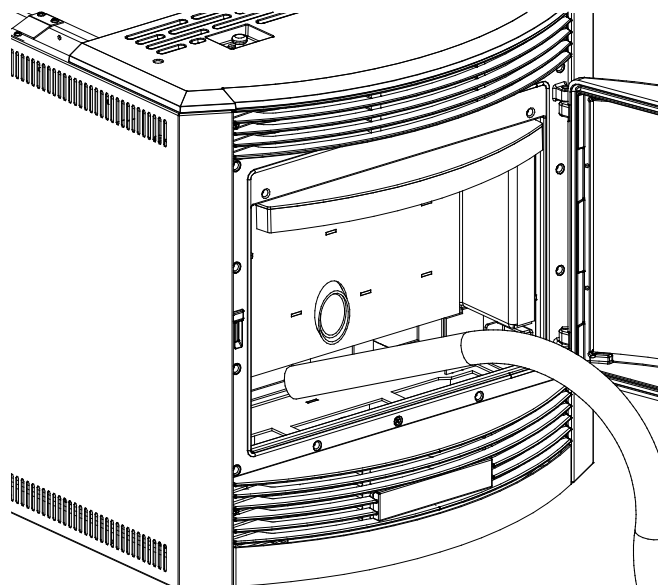
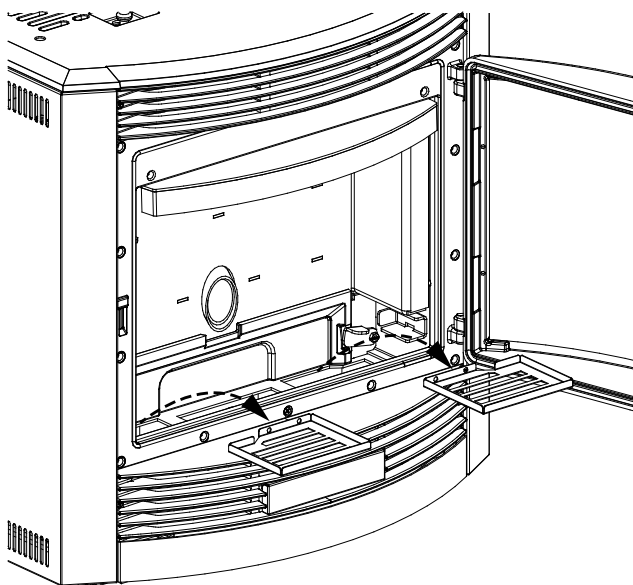
Every 3-4 days check the ash drawer and empty it at least one/twice a week.

If there is a lower door, open/remove it.

Take out the removable ash drawer and empty it in a special container.

Vacuum the area underneath the removable ash drawer. Once you have cleaned it, place back the removable drawer and close/place back the external door.

In some stoves the ash collector tray is located in the combustion chamber. In this case, just open the door and vacuum the ash from the tray.



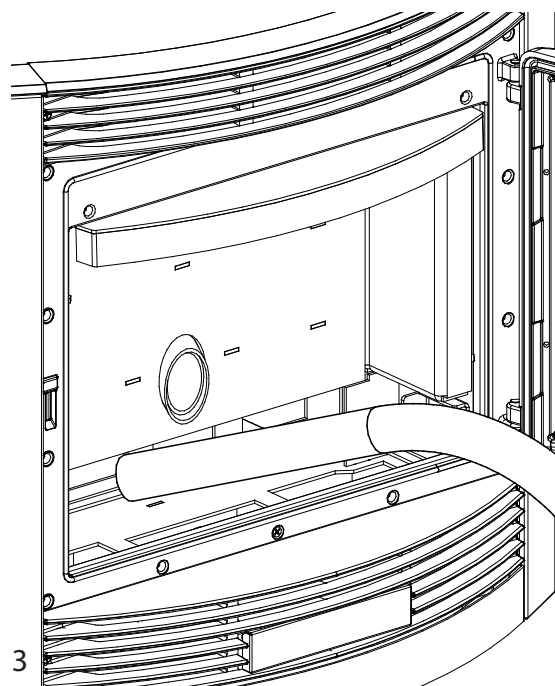
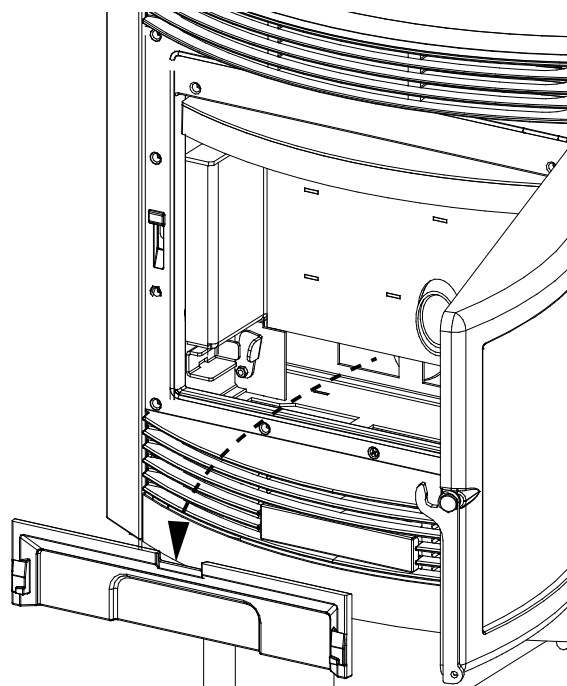
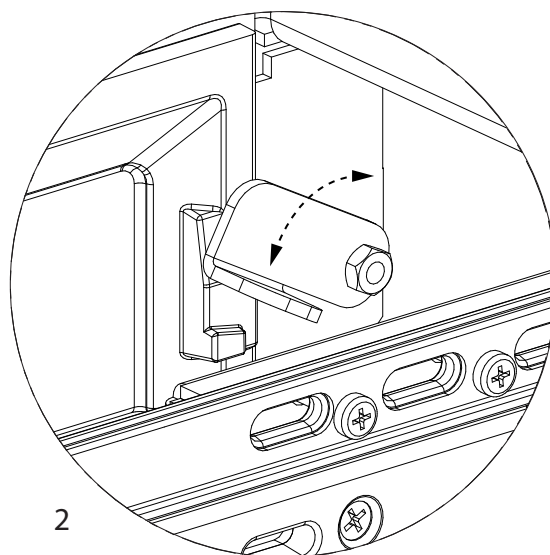
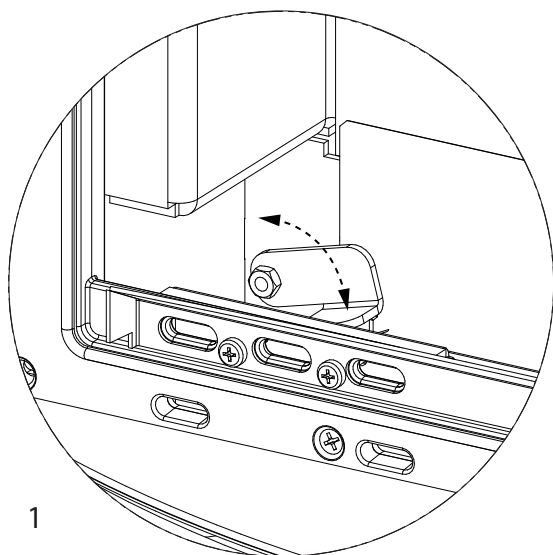
CLEANING THE HEAT EXCHANGER (MONTHLY)

The heat exchangers chamber must be cleaned every month as the soot deposited on the rear of the cast iron hearth wall blocks the regular flow of fumes.

To access the heat exchangers, remove the central piece from the hearth wall, following the operations described below:

- ♦ Remove the brazier from its location
- ♦ Manually rotate the 2 lockbolts, shown in figures 1 and 2, outwards.
- ♦ Hold the extractable cast iron and pull it downwards.
- ♦ Finally, slide it from the combustion chamber by pulling it towards yourself, paying attention to the 2 lateral cast iron hooks below.

Once the heat exchanger compartment can be accessed use the supplied fire irons to remove and scrape the soot deposited and only then use the suction device to completely remove the ash (figure 3). When cleaning has been completed, re-position the extractable cast iron with the opposite movement used to remove it. When the hearth wall has been positioned, turn the lockbolt to take it to its original position.



ROUTINE MAINTENANCE CARRIED OUT BY AUTHORISED TECHNICIANS

Routine maintenance must be performed at least once a year.

As the generator uses pellets as solid fuel, it needs an annual routine maintenance interval that needs to be performed by an **authorised Technician by only using original spare parts.**

Failure to do so can affect the appliance's safety and you may no longer be entitled to the warranty conditions.

By following the cleaning schedule reserved to the user and reported in the user and maintenance manual, one ensures correct combustion in the generator over time, thereby preventing any anomalies and/or malfunctions that may require more work to be performed by the technician. Requests for routine maintenance are not covered by the product's warranty.

DOOR, ASH DRAWER AND BURN POT GASKETS

The gaskets ensure the tightness of the stove and its consequent proper operation.

They must be checked periodically: in the event they are worn or damaged they must be replaced immediately.

These operations must be carried out by a qualified technician.

CONNECTION TO THE FLUE

Vacuum and clean the pipe that leads to the flue yearly or whenever necessary. If there are horizontal sections, any residue must be removed before it obstructs the flue.

PUTTING THE EQUIPMENT OUT OF SERVICE (END OF THE SEASON)

At the end of every season, before turning off the stove, we recommend completely emptying the pellet tank and using a vacuum cleaner to clear up any pellets and dust residue inside it.

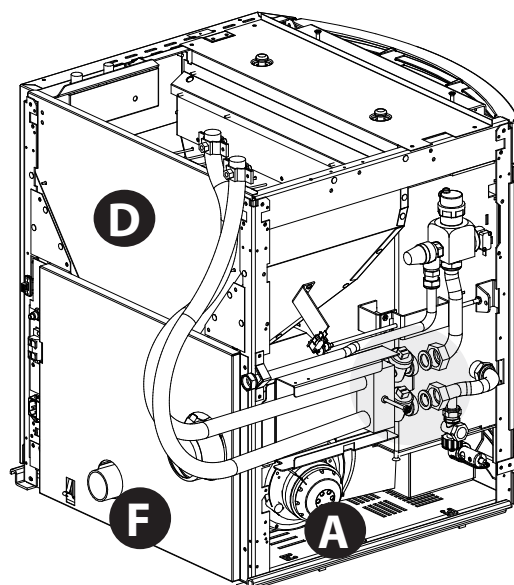
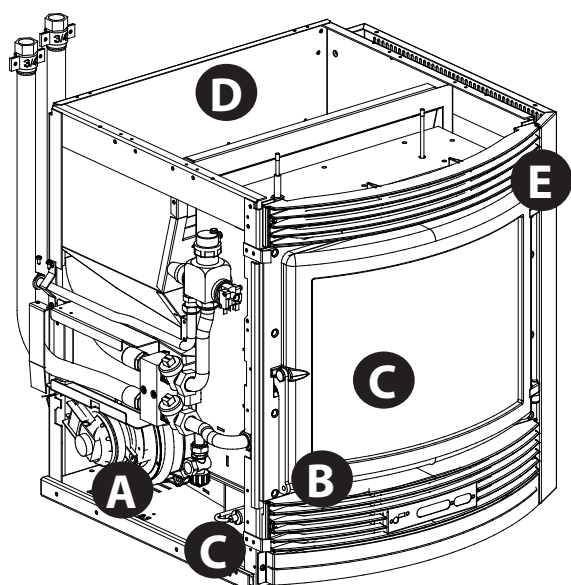
You should also disconnect the generator from the mains and, to ensure greater safety especially if there are any children around, remove the power supply cable.

Routine maintenance must be performed at least once a year.



IF THE POWER SUPPLY CABLE IS DAMAGED, IT MUST BE REPLACED BY THE AFTER-SALES SERVICE OR BY A SIMILARLY QUALIFIED PERSON, SO AS TO AVOID ALL RISKS.

The images are for illustration purposes



A	Fumes motor (disassembly and cleaning and fumes pipe), new silicone in required points
B	Inspection of gaskets, ash drawer and burn pot door (replace them and apply silicone where required)
C	Combustion chamber (total cleaning of the entire chamber) and ignition plug pipe cleaning
D	Tank (complete emptying and cleaning)
E	Room air fan disassembly and removal of dust and any pellet debris
F	Air intake pipe inspection and any flow sensor cleaning

DISPLAYS

DISPLAY	REASON	MEANING
START	The start phase is in progress	–
PELLET FEEDING	the continuous feeding of the pellets during the ignition phase is in progress	–
IGNITION	The ignition phase is in progress	
START-UP	The start-up phase is in progress	–
BURN POT CLEANING	The automatic burn pot cleaning is in progress	–
FINAL CLEANING	The final cleaning is in progress	–
STAND-BY COOLING	Start-up attempt while the stove is still in cooling mode	Every time the stove displays one of the alarms listed above it will switch-off automatically. The alarm can only be released using button 1 when it switch-off has been completed. The stove can only be switched back on when it completely cold
WORK	The normal operating phase is in progress, the stove is operating at the set power	-
MODULATION	the stove is operating at minimum	-
STAND - BY	Stove off waiting for re-ignition due to an external thermostat	The stove will only re-start when the external thermostat will request it
STDBY-BLACK OUT	The stove is cooling after a power cut.	Once cooling is complete, it will automatically ignite
ROOM T	Displays room temperature (in the models where provided)	-
HOFF	Stove off due to water temperature over set	As soon as the water temperature drops below the set parameters, the stove will switch back on
ANTI-FREEZE	The anti-freeze function is in progress as the H ₂ O t° is below the factory set threshold	the pump is active until the water reaches the pre-set factory parameter +2°C
ANTILOCK	The pump anti-locking function is in progress (only if the stove has been in Off status for at least 96 hours)	the circulator is activated for the amount of time set by the manufacturer to prevent it from locking

ALARMS

DISPLAY	EXPLANATION	SOLUTION
	Indicates the presence of an alarm.	On: indicates the presence of an alarm Flashing: indicates the deactivation of the depression sensor. The alarm can be reset by pressing key 1 for 3 seconds only if the fumes motor has stopped and if 15 minutes have passed from when the alarm was displayed.
ASPIRATION FAULT	Fumes motor fault	Contact after-sales centre
FUMES PROBE	Fumes probe failure.	Contact after-sales centre
HOT FUMES	High flue gas temperature	Verify pellet feed (see "Pellet feed regulation"). If the problem cannot be solved, contact an authorised technician.
CLEAN CHECK UP 1 - 2 (1 = START-UP PHASE) (2 = WORK PHASE)	The door is not closed correctly. The ash drawer is not closed correctly. The combustion chamber is dirty. The flue exhaust pipe is blocked.	Check hermetic door closure. Check hermetic closure of the ash drawer. Check cleanliness of the fumes pipe, of the sensor in the primary air channel and the combustion chamber.
NO IGNITION	The pellet feed-box is empty. Pellet feed calibration inadequate.	Check for the presence of pellets in the feed-box. Adjust pellet flow (see "Pellet feed adjustment"). Check the procedures described in the "Ignition" chapter.
NO IGNITION BLACK OUT	No current during the ignition phase.	Take the stove to OFF conditions using key 1 and repeat the procedure described in the "Ignition" chapter.
NO PELLETS	The pellet feed-box is empty. No pellet feed. The motor reducer does not feed pellets.	Check for the presence of pellets in the feed-box. Adjust pellet flow (see "Pellet feed adjustment").
DEPR ALARM	The door is not closed correctly. The ash drawer is not closed correctly. The combustion chamber is dirty. The flue exhaust pipe is blocked	Check hermetic door closure. Check hermetic closure of the ash drawer. Check cleanliness of the fumes pipe and the combustion chamber.
DEBIMETER FAULT	Faulty flow sensor. Sensor disconnected	Contact after-sales centre
H2O OVERTEMPERATURE	The water in the stove has exceeded 95°C. Possible air in the system. Insufficient circulation. No or inadequate safety zone. Possible circulator anomaly.	Contact after-sales centre
MINIMUM PRESSURE ALARM	The system pressure read by the pressure switch is too low. Possible presence of air in the system. Possible lack of water or leaks due to anomalies in some system component.	Contact after-sales centre
H2O PROBE ALARM	H2O probe failure	
MAX H2O PRESSURE ALARM	The pressure of the water has exceeded the max threshold	Check that the expansion vessels are not damaged or under-dimensioned Check that the cold system is loaded at the correct pressure

Extraflame®

Riscaldamento a Pellet

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This manual cannot be considered as a contract for third parties.